

**ASRS Database Report Set**

**Wake Turbulence Encounters**

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Report Set Description.....A sampling of reports from flight crews encountering, or affected by, turbojet wake turbulence.

Update Number .....5.0

Date of Update .....July 27, 2000

Number of Records in Report Set .....50

Number of New Records in Report Set.....45

Type of Records in Report Set .....For each update, new records received at ASRS will displace a like number of the oldest records in the Report Set, with the objective of providing the fifty most recent relevant ASRS Database records. Records within this Report Set have been screened to assure their relevance to the topic.

**MEMORANDUM FOR: Recipients of Aviation Safety Reporting System Data**  
**SUBJECT: Data Derived from ASRS Reports**

The attached material is furnished pursuant to a request for data from the NASA Aviation Safety Reporting System (ASRS). Recipients of this material are reminded of the following points, which must be considered when evaluating these data.

ASRS reports are submitted voluntarily. The existence in the ASRS database of reports concerning a specific topic cannot, therefore, be used to infer the prevalence of that problem within the National Airspace System.

Reports submitted to ASRS may be amplified by further contact with the individual who submitted them, but the information provided by the reporter is not investigated further. Such information may or may not be correct in any or all respects. At best, it represents the perception of a specific individual who may or may not understand all of the factors involved in a given issue or event.

After preliminary processing, all ASRS reports are de-identified. Following de-identification, there is no way to identify the individual who submitted a report. All ASRS report processing systems are designed to protect identifying information submitted by reports, such as, names, company affiliations, and specific times of incident occurrence. There is, therefore, no way to verify information submitted in an ASRS report after it has been de-identified.

The National Aeronautics and Space Administration and its ASRS contractor, Battelle Memorial Institute, specifically disclaim any responsibility for any interpretation which may be made by others of any material or data furnished by NASA in response to queries of the ASRS database and related materials.

Linda J. Connell, Director  
Aviation Safety Reporting System

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**CAVEAT REGARDING STATISTICAL USE OF ASRS INFORMATION**

Certain caveats apply to the use of ASRS statistical data. All ASRS reports are voluntarily submitted, and thus cannot be considered a measured random sample of the full population of like events. For example, we receive several thousand altitude deviation reports each year. This number may comprise over half of all the altitude deviations that occur, or it may be just a small fraction of total occurrences. We have no way of knowing which.

Moreover, not all pilots, controllers, air carriers, or other participants in the aviation system, are equally aware of the ASRS or equally willing to report to us. Thus, the data reflect **reporting biases**. These biases, which are not fully known or measurable, distort ASRS statistics. A safety problem such as near midair collisions (NMACs) may appear to be more highly concentrated in area "A" than area "B" simply because the airmen who operate in area "A" are more supportive of the ASRS program and more inclined to report to us should an NMAC occur.

Only one thing can be known for sure from ASRS statistics—they represent the **lower measure** of the true number of such events that are occurring. For example, if ASRS receives 300 reports of track deviations in 1993 (this number is purely hypothetical), then it can be known with certainty that at least 300 such events have occurred in 1993.

Because of these statistical limitations, we believe that the **real power** of ASRS lies in the **report narratives**. Here pilots, controllers, and others, tell us about aviation safety incidents and situations in detail. They explain what happened, and more importantly, **why** it happened. Using report narratives effectively requires an extra measure of study, the knowledge derived is well worth the added effort.

For text on the strengths and limitations of incident data, the process of using incidents for human factors evaluations, statistical analysis methods and other sources of incident data, see:

Chappell, S.L. (1994). Using voluntary incident reports for human factors evaluations. In N. Johnston, N. McDonald & R. Fuller (Eds.), *Aviation Psychology in Practice*. Aldershot, England: Ashgate.

## Time

Date : 199812

Day : Wed

Local Time Of Day : 0601 To 1200

## Place

Locale Reference.Airport : ORD

Locale Reference.ATC Facility : ORD

State Reference : IL

Altitude.MSL.Bound Lower : 4000

Altitude.MSL.Bound Upper : 4000

## Environment

Flight Conditions : Mixed

## Aircraft / 1

Controlling Facilities.TRACON : ORD

Make Model : A320

## Aircraft / 2

Make Model : B727 Undifferentiated or Other Model

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 12000

Experience.Flight Time.Last 90 Days : 115

Experience.Flight Time.Type : 115

ASRS Report : 423215

## Person / 2

Function.Flight Crew : First Officer

## Person / 4

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 5

Function.Controller : Approach

## Events

Anomaly.Other Anomaly : Loss Of Aircraft Control

Independent Detector.Other.Flight CrewA : Unspecified

Resolatory Action.Flight Crew : Returned to Intended Course or Assigned Course

Consequence.Other : Physical Injury

Narrative :

UPON INTERCEPTING ILS RWY 27L FROM A RADAR VECTOR AT 4000 FT MSL/210 KTS ASSIGNED, ACFT WENT INTO AN ABRUPT 40 DEG L BANK. WINGS WERE LEVELED AND LNDG UNEVENTFUL ON RWY 27L AT ORD. IN FRONT OF US WAS A B727 3-4 MI. AFTER BLOCK-IN AT GATE, INFORMED THAT ONE OF OUR FLT ATTENDANTS IN THE REAR FELL TO HER KNEES DURING THE ENCOUNTER. (THE LNDG ANNOUNCEMENT HAD BEEN MADE PREVIOUS TO THIS.) SHE WAS LIKELY PERFORMING HER LNDG CHKS IN THE CABIN. SHE COMPLAINED OF PAIN IN HER KNEES BUT WALKED TO COCKPIT. I HAVE NO FURTHER INFO ON HER CONDITION. CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING INFO: RPTR PARTICIPATED IN THE WAKE TURB CALLBACK STUDY. RPTR RPTED THE WAKE TO BE OF SHORT DURATION. HE FELT THE PF COULD HANDLE THE 40 DEG ROLL CAUSED BY THE WAKE. HE DIDN'T EVEN TRY TO TAKE CTL OF THE ACFT AT THE TIME. WAKE ROLLED THE ACFT BUT NOT MUCH ELSE HAPPENED. A FLT ATTENDANT WAS STANDING PERFORMING PRELNDG CHK IN THE CABIN, SHE WAS KNOCKED DOWN. THE FLT ATTENDANT WAS ABLE TO WALK OFF THE ACFT AT DEST. NO FURTHER WORD AS TO HOW SEVERE HER INJURIES WERE.

Synopsis :

AN A320 APCHING ORD, IL, ENCOUNTERS WAKE TURB ON THE ILS RWY 27L APCH COURSE. ACFT ROLLS 40 DEGS L BUT REGAINS FULL CTL. A FLT ATTENDANT IS INJURED.

**Time**

Date : 199812

Day : Sun

Local Time Of Day : 1801 To 2400

**Place**

Locale Reference.Airport : ORD

State Reference : IL

Altitude.AGL.Bound Lower : 0

Altitude.AGL.Bound Upper : 0

**Environment**

Flight Conditions : VMC

**Aircraft / 1**

Controlling Facilities.Tower : ORD

**Person / 1**

Function.Flight Crew : First Officer

Experience.Flight Time.Total : 5000

Experience.Flight Time.Last 90 Days : 120

Experience.Flight Time.Type : 500

ASRS Report : 423690

**Person / 2**

Function.Oversight : PIC

Function.Flight Crew : Captain

**Person / 3**

Function.Flight Crew : Second Officer

**Person / 4**

Function.Controller : Local

**Person / 5**

Function.Oversight : PIC

Function.Flight Crew : Captain

**Events**

Anomaly.Aircraft Equipment Problem : Less Severe

Independent Detector.Other.Flight CrewA : Unspecified

Resolatory Action.Flight Crew : Exited Adverse Environment

Narrative :

ON DEC/XA/98 I WAS THE FO ABOARD FLT OPERATING ORD-PDX. ON THIS NIGHT, ORD WAS RUNNING VISUAL APCHS TO RWYS 9L&R AND DEPS ON RWY 32L FROM INTXN T10. ATC CLRED US TO TAXI OUT TO RWY 32L TXWY T10 AND ONCE THERE, TWR TOOK US INTO POS AND HOLD. WE WERE NOT ADVISED OF AN ARR ON RWY 9L, BUT AS TWR CLRED US FOR TKOF WE NOTED AN ACFT LNDG ACROSS OUR RWY TOWARDS THE DEP END. WE PROCEEDED WITH THE TKOF. AT V1 THE ACFT BUFFETED SLIGHTLY, AND A LOUD BANG WAS NOTED (THE CAPT SAW A WHITE FLASH OUT OF HIS PERIPHERAL VISION). BY THE TIME THIS WAS NOTED WE WERE AT VR AND CONTINUED THE TKOF WITHOUT INCIDENT. ON CLBOUT WE DISCUSSED IF WE HAD A COMPRESSOR STALL INDUCED BY WAKE TURB FROM THE ARRIVING ACFT. THE ENGINEER HAD NOT NOTED ANY ENG ANOMALIES, BUT WE STILL BELIEVE THAT THE WAKE WHICH WOULD HAVE SETTLED AT APPROX OUR ROTATION POINT, DISTURBED THE AIR FLOW TO ONE OF THE ENGS AND TRIGGERED A MOMENTARY COMPRESSOR STALL. THIS SHOULD BE ANOTHER SIT CONSIDERED DURING SIMULTANEOUS RWY OPS. CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING INFO: RPTR PARTICIPATED IN WAKE TURB STRUCTURED CALLBACK PROGRAM. FLC SAW THE APCH ACFT CROSS THEIR INTENDED DEP PATH BUT DIDN'T FEEL IT WOULD PRESENT ANY PROB. THEIR ACFT ENCOUNTERED THE LNDG ACFT'S WAKE JUST AT THEIR ROTATION POINT. THEY WERE NOT AIRBORNE WHEN THEY HEARD A VERY LOUD BANG. THE CAPT SAW A FLASH OF LIGHT ON THE L SIDE OF THE ACFT. ALL FLC RECOGNIZED THE SOUND OF A COMPRESSOR STALL ON THE L SIDE OF THE ACFT. IF THEY WERE TO DO IT OVER AGAIN, RPTR SAID THEY WOULD WAIT 1 OR 2 MINS TO ASSURE CLRNC FROM WAKE OF LNDG ACFT BEFORE STARTING TKOF ROLL.

Synopsis :

A DC8-71 SUFFERS AN ENG COMPRESSOR STALL AT ROTATION DURING TKOF FROM ORD, RWY 32L. A LNDG ACFT ON AN INTERSECTING RWY HDG IS THOUGHT TO HAVE CREATED THE WAKE THAT CAUSED THE STALL.

## Time

Date : 199901

Day : Sat

Local Time Of Day : 1801 To 2400

## Place

Locale Reference.Airport : MSP

State Reference : MN

Altitude.MSL.Bound Lower : 4000

Altitude.MSL.Bound Upper : 4000

## Environment

Flight Conditions : IMC

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 10750

Experience.Flight Time.Last 90 Days : 230

Experience.Flight Time.Type : 900

ASRS Report : 425585

## Person / 2

Function.Flight Crew : First Officer

## Person / 3

Function.Controller : Approach

## Person / 4

Function.Oversight : PIC

Function.Flight Crew : Captain

## Events

Anomaly.Conflict : Airborne Less Severe

Anomaly.Non Adherence : Published Procedure

Anomaly.Non Adherence : Required Legal Separation

Independent Detector.Other.Flight CrewA : Unspecified

Resolutive Action.Other : Flight Crew Executed Missed Approach Or Go Around

Narrative :

FLYING INBOUND TO MSP, ATC CLRED THE FLT FOR THE ILS RWY 12R AND THE APCH MODE WAS SELECTED AND THE MISSED APCH ALT WAS SET FOR 5000 FT. AROUND 9-10 NM FROM THE RWY, THE TCASII DISPLAYED POP-UP TFC 2-3 MI DIRECTLY IN FRONT OF US (200 FT LOWER). I HAD POINTED THIS OUT TO THE FO AND WAS ABOUT TO QUESTION ATC, BUT THE ACFT HAD EXPERIENCED A LIGHT BUZZ TURB FOLLOWED BY A SHARP R ROLL. I DISCONNECTED THE AUTOPLT AND WAS ABLE TO RECOVER, BUT THIS WAS FOLLOWED BY A VERY STRONG L ROLL. THIS L ROLL COULD ONLY BE SLOWED WITH THE FULL R APPLICATION OF THE AILERONS. IT SEEMED LIKE THE ACFT WAS CAUGHT IN WAKE TURB AND IT MAY ROLL OVER. IN AN ATTEMPT TO STRENGTHEN LATERAL CTL, I CAUTIOUSLY ADDED R RUDDER TO PICK UP THE L WING, BUT THIS FAILED TO RETURN THE WINGS TO A LEVEL ATTITUDE. THE ONLY POSSIBLE ESCAPE FROM THIS WAKE TURB SEEMED TO BE THROUGH THE VERT PLANE. I SLAMMED THE THRUST LEVERS FORWARD AND CLBED. THIS WORKED AND NORMAL FLT CTL WAS REGAINED. I ANNOUNCED TO ATC A GAR FOR WAKE TURB, AND DEMANDED 5000 FT. AFTER ENGAGING THE AUTOPLT, I FOUND OUT THAT THE POP-UP TFC WAS A B747 ON AN APCH TO RWY 12L. I TOLD THE CTLR THAT WE HAD EXPERIENCED UNCOMMANDED ROLLS DUE TO WAKE TURB AND THAT THE WINDS AT 4000 FT WERE FROM NE AT 45 KTS. THE FLT WAS REVECTORED FOR ANOTHER APCH AND LANDED WITHOUT FURTHER INCIDENT. I THINK THIS WAKE TURB ORIGINATED FROM THE B747'S TAIL PLANE -- WHICH WOULD ASCEND ABOVE ITS ALT AND CAUSE A R ROLL FIRST, FOLLOWED BY THE L ROLL. IF MY ASSUMPTION IS CORRECT, THE STRENGTH FROM A B747'S WING VORTEX WOULD BE A VERY DANGEROUS MATTER. I WOULD LIKE TO RESTATE: THIS ACFT COULD ONLY IMPEDE THIS L ROLL AND A VERT ESCAPE WAS REQUIRED TO REGAIN CTL OF THE ACFT. IN THE LAST 11 YRS OF FLYING AT THIS AIRLINE, I HAD ENCOUNTERED MANY TYPES OF WAKE TURB FROM VARIOUS ACFT, BUT NONE OF THIS PWR. ATC IS BRINGING ACFT CLOSER AND CLOSER THESE DAYS, PLACING CREWS AT MORE RISK FOR WAKE TURB ENCOUNTERS. CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING INFO: RPTR PARTICIPATED IN THE WAKE TURB STRUCTURED CALLBACK PROGRAM. THE PRECEDING B747 DID NOT SHOW ON TCASII UNTIL SHORTLY BEFORE THE OCCURRENCE. WHEN IT DID SHOW, IT WAS ONLY 2-3 MI AWAY. RPTR ACFT WAS ABOUT 200 FT ABOVE THE B747 GLIDE PATH. RPTR THINKS THE WAKE WENT UPWARD AS A RESULT OF THE HORIZ STABILIZER FORCES OF THE B747. RPTR ACFT HAD 50 DEG ROLL TO THE R FOLLOWED BY A 60 DEG ROLL TO THE L. AILERON AND RUDDER WERE USED TO UPRIGHT THE ACFT. ONLY PARTIAL CTL WAS AVAILABLE. FLC EXECUTED A GAR AND PERFORMED ANOTHER ILS APCH. WHEN PARKED AT THE GATE, THE FO WAS STILL SHAKING. IT WAS A STRESSFUL INCIDENT.

Synopsis :

AN AVRO RJ85 (BA146) ENCOUNTERS WAKE TURB WHILE MAKING A PARALLEL APCH INTO MSP RWY 12R.



## Time

Date : 199901

Day : Wed

Local Time Of Day : 1801 To 2400

## Place

Locale Reference.Airport : ORD

State Reference : IL

Altitude.MSL.Bound Lower : 4000

Altitude.MSL.Bound Upper : 4000

## Environment

Flight Conditions : VMC

## Aircraft / 1

Make Model : Regional Jet C165

## Aircraft / 2

Make Model : B757 Undifferentiated or Other Model

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 10200

Experience.Flight Time.Last 90 Days : 150

Experience.Flight Time.Type : 230

ASRS Report : 426673

## Person / 2

Function.Flight Crew : First Officer

Experience.Flight Time.Total : 2700

Experience.Flight Time.Last 90 Days : 120

Experience.Flight Time.Type : 175

ASRS Report : 427256

## Person / 3

Function.Controller : Approach

## Person / 4

Function.Oversight : PIC

Function.Flight Crew : Captain

## Events

Anomaly.Non Adherence : Published Procedure

Independent Detector.Other.Flight CrewA : Unspecified

Resolatory Action.Other : Flight Crew Executed Missed Approach Or Go Around

Narrative :

THE CTLR PUT US 2 1/2 - 3 MI BEHIND A B757 WITHOUT CAUTIONING US. WE ASKED HIS ACFT TYPE AND CTLR SAID 'ACR X B727.' THE ACR X REPLIED 'B757.' THEN OUR ACFT BEGAN AN UNCTLED L ROLL TO APPROX 45-60 DEGS. THE AUTOPLT DISENGAGED AND WE RECOVERED TO STRAIGHT AND LEVEL. CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING INFO: RPTR PARTICIPATED IN THE WAKE TURB CALLBACK STUDY. RPTR WAS CLOSE TO THE PRECEDING ACFT. HE THOUGHT IT WAS A B727 UNTIL THE PLT OF THE ACFT RPTED IT TO BE A B757. AT THAT TIME HE WAS ONLY 2 1/2 - 3 MI BEHIND. WHEN HE ENCOUNTERED THE WAKE HE DESCRIBED IT AS THE MOST FRIGHTENING EXPERIENCE HE HAS EVER HAD FLYING ANYTHING. THE BANK ROLL WENT TO 45 DEGS, DISENGAGING THE AUTOPLT. HE HAD PARTIAL CTL AND WAS ABLE TO RIGHT THE ACFT. A GAR WAS PERFORMED TO GET OUT OF THE WAKE. DURING FLC/ATC REVIEW, SUPVR STATED THE CTLR WOULD RECEIVE ADDITIONAL TRAINING. SUPPLEMENTAL INFO FROM ACN 427256: THE CAPT MADE VISUAL CONTACT WITH THE PRECEDING ACFT AND THIS PROMPTED HIM TO HAVE ME ASK APCH WHAT TYPE OF ACFT WE WERE FOLLOWING. THE APCH CTLR REPLIED, 'ACR X B727.' SHORTLY AFTER, A VOICE WITH A SPANISH ACCENT RESPONDED, 'B757.' WITHIN A FEW SECONDS, THE ACFT, WHICH WAS ON AUTOPLT AND COUPLED TO THE LOC, BEGAN AN UNCOMMANDED L BANK EXCEEDING 45-50 DEGS OF BANK. THE AUTOPLT DISENGAGED AND THE CAPT RECOVERED HDG 250 DEGS AND CLBING TO 5000 FT WHILE EXECUTING A GAR/MISSED APCH. THE CTLR NOTICED THIS AND CONFIRMED OUR GAR, ASSIGNING US A NEW HDG. I THEN QUESTIONED ATC TO VERIFY WHAT WE WERE FOLLOWING AND HE SAID 'B757.' WE THEN LANDED WITH NO FURTHER INCIDENT.

Synopsis :

A CL65 ENCOUNTERS WAKE TURB BEHIND A B757 DURING APCH AT ORD.

## Time

Date : 199902

Day : Tue

Local Time Of Day : 1801 To 2400

## Place

Locale Reference.Airport : PIT

State Reference : PA

Altitude.AGL.Bounds Lower : 500

Altitude.AGL.Bounds Upper : 500

## Environment

Flight Conditions : VMC

## Aircraft / 1

Make Model : MD-80 Super 80

## Aircraft / 2

Make Model : Commercial Fixed Wing

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 15000

Experience.Flight Time.Last 90 Days : 200

Experience.Flight Time.Type : 2600

ASRS Report : 428689

## Person / 2

Function.Flight Crew : First Officer

## Person / 3

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 4

Function.Oversight : PIC

Function.Flight Crew : Captain

## Events

Anomaly.Conflict : Airborne Less Severe

Independent Detector.Other.Flight CrewA : Unspecified

Resolutive Action.Flight Crew : Declared Emergency

Resolutive Action.Flight Crew : Took Evasive Action

Resolutive Action.Other : Flight Crew Executed Missed Approach Or Go Around

Resolutive Action.Other : Unspecified

Narrative :

I UNDERSTOOD THAT WE HAD BEEN TOLD TO EXPECT RWY 28R AND BRIEFED FOR THAT APCH. EVENTUALLY I REALIZED THAT WE WERE BEING VECTORED FOR A RWY 32 APCH AND WE BEGAN TO SET UP FOR RWY 32. SPACING ON THE ACFT AHEAD WAS TIGHT AND WE ENCOUNTERED WAKE TURB ON SHORT FINAL. WE TOLD THE TWR THAT WE WERE GOING AROUND AND WERE TOLD TO MAINTAIN RWY HEADING. WE WERE ASKED TO MAINTAIN VISUAL CONTACT WITH 3 DIFFERENT ACFT AND EVENTUALLY LANDED ON RWY 28R. I AM CRITICAL OF MY PERFORMANCE IN THAT I WAS NOT PREPARED FOR THE PROPER APCH. BETTER COM WITH MY FO WOULD HAVE HELPED. I AM ALSO CRITICAL OF THE CTLRS DUE TO THE FACT THAT WE WERE SPACED TOO CLOSE TO THE ACFT AHEAD AND THAT THE TWR SEEMED UNPREPARED FOR OUR MISSED APCH. CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING INFO: THE CAPT OF THIS MD80, SUPER 80, SAID THAT HE WAS SURPRISED AND UNPREPARED FOR THE CLOSE-IN TURN TO RWY 32. THE LAST INFO THAT HE RECALLED RECEIVING WAS TO EXPECT RWY 28R. THEREFORE, HE WAS TOO FAST, TOO CLOSE IN TO RWY 32 AND NOT YET CONFIGURED OR SLOWED FOR THE APCH. HE COULD NOT RECALL THE TYPE OF ACFT THAT HE WAS TO FOLLOW, BUT HE DID REMEMBER THAT HE WAS TOO CLOSE TO IT. THE FLC STARTED THEIR GAR ABOUT 1 MI FROM THE RWY WITH THE OTHER ACFT STILL ON THE RWY. HE SAID THAT DURING THE INITIAL CLB THE ATCT LCL CTLR, AND LATER THE DEP CTLR, POINTED OUT AT LEAST 2 ACFT THAT THE CREW HAD TO MAINTAIN VISUAL SEPARATION FROM WHILE ACCOMPLISHING THEIR OTHER DUTIES. THE RPTR CHARACTERIZED THE CTLRS AS BEING UNPREPARED FOR THIS CONTINGENCY.

Synopsis :

THE FLC OF AN ACR MD80, SUPER 80, HIT THE WAKE OF A PRECEDING ACFT AND HAD TO MAKE A GAR FROM A SHORT FINAL APCH TO RWY 32 AT PIT.

## Time

Date : 199902

Day : Mon

Local Time Of Day : 0601 To 1200

## Place

Locale Reference.Airport : MMU.Airport

State Reference : NJ

Altitude.AGL.Single Value : 100

## Environment

Flight Conditions : VMC

## Aircraft / 1

Controlling Facilities.Tower : MMU.Tower

Make Model : PA-23-250 Turbo Aztec

## Aircraft / 2

Controlling Facilities.Tower : MMU.Tower

Make Model : Cessna Citation Undifferentiated or Other Model

## Person / 1

Function.Flight Crew : Single Pilot

Experience.Flight Time.Total : 950

Experience.Flight Time.Last 90 Days : 25

Experience.Flight Time.Type : 500

ASRS Report : 429141

## Person / 2

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 3

Function.Controller : Local

## Events

Anomaly.Inflight Encounter : Wake Turbulence

Independent Detector.Other.Flight CrewA : 1

Resolatory Action.Flight Crew : Exited Adverse Environment

## Supplementary

Problem Areas : Environmental Factor

Narrative :

I WAS ADVISED THAT THE CITATION DEPARTING AHEAD OF ME COULD PRODUCE WAKE TURB. I ASKED FOR A TURN TO 330 DEGS (DEPARTING RWY 23) SO I COULD TURN AND AVOID WAKE. I LIFTED OFF AND THE LIFTOFF WAS WELL BEFORE THE SPOT THE CITATION LIFTED OFF. I THEN STARTED A R TURN. I GOT A LITTLE BUFFET, I BELIEVE FROM THE WAKE, AND STRAIGHTENED OUT AND HIT CLR AIR AND CONTINUED MY TURN. 2 THOUGHTS: 1) DO NOT DEPEND ON LIFTING OFF BEFORE SPOT OTHER ACFT DID TO ELIMINATE CHANCE OF WAKE ENCOUNTER. 2) DO NOT START A TURN IN A POSSIBLE WAKE ENCOUNTER SIT -- OR AT LEAST NOT SO CLOSE TO THE GND.

Synopsis :

PLT OF A PIPER AZTEC ENCOUNTERS WAKE TURB ON TKOF BEHIND A CESSNA CITATION.

## Time

Date : 199902

Day : Thu

Local Time Of Day : 0601 To 1200

## Place

Locale Reference.Airport : ORD.Airport

State Reference : IL

Altitude.MSL.Bound Lower : 7000

Altitude.MSL.Bound Upper : 10000

## Environment

Flight Conditions : VMC

## Aircraft / 1

Make Model : B737-300

## Aircraft / 2

Make Model : B757-200

## Person / 1

Function.Controller : Approach

ASRS Report : 429568

## Person / 2

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 3

Function.Oversight : PIC

Function.Flight Crew : Captain

## Events

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Other Anomaly : Loss Of Aircraft Control

Independent Detector.Other.Flight CrewA : 2

Resolatory Action.Flight Crew : Regained Aircraft Control

Resolatory Action.None Taken : Anomaly Accepted

## Supplementary

Problem Areas : Aircraft

Problem Areas : ATC Human Performance

Problem Areas : Weather

Narrative :

BOTH ACFT ENTERED OUR AIRSPACE FROM THE NE AT 10000 FT 10 MI IN TRAIL. FIRST THE B757 (ACFT Y) WAS DSNDDED TO 7000 FT, 10 MI NE OF ORD AND TURNED TO A 250 DEG HDG FOR A DOWNWIND TO RWY 9R. AT APPROX THE SAME POS, I DSNDDED THE B737 (ACFT X) TO 7000 FT, 8 MI NE OF ORD. THE B737 ASKED WHAT THEY WERE FOLLOWING AND THAT THEY JUST HIT TURB AND ROLLED 30 DEGS. AT THIS TIME THE B757 WAS 7.9 MI AHEAD OF THE B737, LEVEL AT 7000 FT. ON THE RADAR PLOT, THE B737 WAS 1 1/2 MI E OF THE B757'S TRACK. THE WINDS WERE LIGHT OUT OF THE NW AT ALT.

Synopsis :

ACFT X, A B737, ENCOUNTERED WAKE TURB FOLLOWING ACFT Y, B572, EVEN THOUGH THE DISTANCE BTWN ACFT EXCEEDED THE REQUIREMENT BY THE FAA.



## Time

Date : 199903

Day : Mon

Local Time Of Day : 1801 To 2400

## Place

Locale Reference.Airport : DFW.Airport

State Reference : TX

Altitude.AGL.Single Value : 300

## Environment

Flight Conditions : VMC

## Aircraft / 1

Controlling Facilities.TRACON : D10.TRACON

Controlling Facilities.Tower : DFW.Tower

Make Model : Fokker 100

## Aircraft / 2

Controlling Facilities.TRACON : D10.TRACON

Controlling Facilities.Tower : DFW.Tower

Make Model : Commercial Fixed Wing

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

ASRS Report : 430225

## Person / 2

Function.Flight Crew : First Officer

## Person / 3

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 4

Function.Controller : Approach

## Person / 5

Function.Controller : Local

## Events

Anomaly.Inflight Encounter : Wake Turbulence

Independent Detector.Other.Flight CrewA : 1

Resolatory Action.Flight Crew : Executed Go Around

Consequence.Other : Company Review

## Supplementary

Problem Areas : ATC Human Performance

Problem Areas : Weather

Narrative :

I WAS HAND-FLYING VISUAL APCH TO RWY 17C AT DFW AT NIGHT WITH GOOD WX WITH A COMPUTER WIND ON NAV DISPLAY SHOWING A L QUARTERING TAILWIND OF AROUND 010/09 KTS AT 3000 FT. APCH ASKED US OUR GND SPD NUMEROUS TIMES AND KEPT SLOWING US AND SAID WINDS WERE REAL WEIRD THAT NIGHT. WE WERE FOLLOWING TFC ABOUT 4 MI AHEAD. WE WERE CLRED FOR APCH AND WENT TO TWR. TWR CLRED US TO LAND, AND SURFACE WINDS WERE RPTED LIGHT OUT OF THE S. APCH WAS SMOOTH WITH NO TURB. AT ABOUT 300 FT AGL, ACFT BEGAN AN UNCOMMANDED ROLL TO THE R. I TRIED TO COMPENSATE, BUT ROLL CONTINUED. ACFT THEN BEGAN TO SNAP BACK IN THE OTHER DIRECTION. IT FELT LIKE A CLASSIC WAKE VORTEX ROLL. I IMMEDIATELY APPLIED GAR PWR AND CLBED OUT OF THE WAKE. WE WENT STRAIGHT AHEAD, CLBED OUT, AND RETURNED FOR ANOTHER APCH. APCH ASKED US IF WE WOULD THEN LAND BEHIND A B757 ON RWY 17C AND WE POLITELY SAID NO THANKS. WE TOOK RWY 17L AND LANDED NORMALLY. WE DO NOT KNOW IF THE TFC WE WERE FOLLOWING ORIGINALLY WAS AN S80 OR A B757 -- BUT AN UNCOMMANDED ROLL AT 200-300 FT, IT DIDN'T REALLY MAKE ANY DIFFERENCE -- A GAR WAS THE ONLY OPTION. I WILL CERTAINLY TAKE HEED WHEN APCH AND TWR ARE RPTING SO CALLED WEIRD WINDS, EVEN THOUGH SURFACE WINDS ARE LIGHT AND SEEMINGLY BENIGN. WE NEVER WERE BELOW THE GS. SO WHERE THESE VORTICES CAME FROM, I WILL NEVER KNOW.

Synopsis :

AN AIRLINE FOKKER F100 CREW HIT WAKE TURB, OF UNKNOWN ORIGIN, WHILE ON SHORT FINAL APCH. THE CREW PERFORMED A GAR THEN RETURNED FOR A SUCCESSFUL LNDG.

## Time

Date : 199903

Day : Sun

Local Time Of Day : 1201 To 1800

## Place

State Reference : GA

Altitude.MSL.Single Value : 5000

## Environment

Flight Conditions : VMC

## Aircraft / 1

Controlling Facilities.TRACON : ATL.TRACON

Make Model : B727 Undifferentiated or Other Model

## Aircraft / 2

Controlling Facilities.TRACON : ATL.TRACON

Make Model : B767 Undifferentiated or Other Model

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 10500

Experience.Flight Time.Last 90 Days : 160

Experience.Flight Time.Type : 3500

ASRS Report : 430476

## Person / 2

Function.Flight Crew : First Officer

## Person / 3

Function.Flight Crew : Second Officer

## Person / 4

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 5

Function.Controller : Radar

## Events

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Non Adherence : Required Legal Separation

Independent Detector.Other.Flight CrewA : 1

Resolatory Action.Flight Crew : Executed Missed Approach

Resolatory Action.Controller : Issued Alert

Resolatory Action.Controller : Issued New Clearance

## Supplementary

Problem Areas : ATC Human Performance

Problem Areas : Flight Crew Human Performance

Narrative :

ATL IS GETTING WORSE REGARDING INSISTING ON VISUAL APCHS FOLLOWING PRECEDING ACFT. THEY TRIED TO PUT US BEHIND A B767. ASKED FOR 'STANDARD WAKE TURB SEPARATION BEHIND HVY.' ATC CTLR SAID THEY ALWAYS PROVIDE IT. ON BASE, WE ENCOUNTERED WAKE TURB. ATC ASKED US TO RPT B767 IN SIGHT. TOLD HIM ABOUT WAKE TURB ENCOUNTER AND TOLD HIM WE HAD FIELD IN SIGHT. SEVERAL TIMES MORE ATC ASKED TO RPT ACFT IN SIGHT, KEEPING US AT ALT, BUT ALLOWING US TO INTERCEPT LOC. WE WERE 1 1/2 DOTS HIGH ON GS UNTIL ATC CLRED US FOR THE VISUAL. THEN HE SAID IF WE DIDN'T CALL THE TFC IN SIGHT WE WOULD HAVE TO GO AROUND. REFUSED TO CALL TFC IN SIGHT, ATC LOST SEPARATION. WE WERE SENT AROUND. ATC TRIED TO SET US UP ON VISUAL AGAIN FOLLOWING AN MD88. HELD US UP 1 DOT HIGH ON GS. TOLD HIM WE COULDN'T SEE TFC LOST IN GND SURROUNDINGS BY HOLDING US UP HIGH. CLRED US FOR VISUAL. ATC IS OUT OF CTL. SAFETY/WAKE TURB TAKES BACK SEAT TO CAPACITY NOW. THEY WILL KILL SOMEONE IN A WAKE TURB ENCOUNTER ACCIDENT.

Synopsis :

AN ACR B727 FLC RPTS THAT THEY ENCOUNTERED THE WAKE OF A B767 DURING AN IN TRAIL APCH TO THE SAME RWY. THE FLC REFUSED TO CALL THE B767 IN SIGHT AND THE CTLR HAD THEM EXECUTE A GAR.

## Time

Date : 199903

Day : Sun

Local Time Of Day : 1201 To 1800

## Place

State Reference : FL

Altitude.MSL.Single Value : 12000

## Environment

Flight Conditions : Marginal

## Aircraft / 1

Controlling Facilities.TRACON : MIA.TRACON

Make Model : B727 Undifferentiated or Other Model

## Aircraft / 2

Controlling Facilities.TRACON : MIA.TRACON

Make Model : B747 Undifferentiated or Other Model

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

ASRS Report : 432455

## Person / 2

Function.Flight Crew : First Officer

## Person / 3

Function.Flight Crew : Second Officer

## Person / 4

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 5

Function.Controller : Approach

## Events

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Non Adherence : Clearance

Anomaly.Other Anomaly : Loss Of Aircraft Control

Anomaly.Other Anomaly : Speed Deviation

Independent Detector.Other.Flight CrewA : 1

Independent Detector.Other.Flight CrewB : 2

Resolatory Action.Flight Crew : Declared Emergency

Resolatory Action.Flight Crew : Exited Adverse Environment

Resolatory Action.Flight Crew : Overrode Automation

Resolatory Action.Flight Crew : Regained Aircraft Control

Resolatory Action.Flight Crew : Took Evasive Action

Resolatory Action.Controller : Issued New Clearance

## Supplementary

Problem Areas : Aircraft

Problem Areas : ATC Human Performance

Problem Areas : Flight Crew Human Performance

Narrative :

INBOUND VKZ 198 DEG RADIAL, APCHING KAINS INTXN, INBOUND ON THE HEATT 5 ARR. WE HAD JUST LEVELED OFF AT 12000 AND 250 KTS. MIA APCH REQUESTED DSCNT TO 8000 FT AND HE NOTED THAT HVY B747 WAS 8 MI AHEAD OF US. CHKED THE TCASII AND NOTED THAT THE ACFT WAS AHEAD OF US BUT BELOW US BY 1000 FT AND WAS ALREADY DSNDING ITSELF. WE HAD BEEN IN TRAIL BY 10-12 MI BUT THE DISTANCE HAD NARROWED ALL OF A SUDDEN. THE FO ASKED TO DELAY DSCNT AND I CONCURRED. SEVERAL SECONDS LATER WE ENCOUNTERED THE FIRST OF 2 VIOLENT ROLLING MOMENTS. FO WAS ABLE TO STOP THE FIRST AT ABOUT 35 DEG BANK WITH FULL OPPOSITE AILERON AND RUDDER AS HE WAS KICKING OFF THE AUTOPLT. THE SECOND ROLL OCCURRED APPROX 3-4 SECONDS LATER IN OPPOSITE DIRECTION AND HE HAD AGAIN TO USE FULL OPPOSITE RUDDER AND AILERON TO STOP ROLL BUT WE PROBABLY EXCEEDED 35 DEG BANK. HE ASKED TO CLB AND I ORDERED HIM TO TAKE A 20 DEG TURN L, AWAY FROM THE B747 AND CLB TO 12500 FT. I IMMEDIATELY TRIED TO CONTACT MIA APCH BY DECLARING OVER THE RADIO AN EMER AND TELLING THEM WE WERE TAKING THE TURN AND CLBING TO 12500 FT. MIA APCH CAME BACK AND SAID I WANT YOU DOWN TO 8000 FT AS HE WAS TRYING TO UNDERSTAND THE SIT. NOW THAT I HAD HIS FULL ATTN I WAS ABLE TO CONVEY WE HAD TAKEN 2 SHARP ROLLS AND WE HAD SEPARATED OUR FLT PATHS/TRAIL. HE ASKED OUR HDG AND THEN ASSIGNED 180 DEGS AND 210 KTS. WE FOLLOWED B747 TO RWY 9L FOR UNEVENTFUL LNDG. KEPT APCH HIGH AS THE B747 KEPT A HIGH APCH. SEAT BELT SIGN WAS ON AND SINCE I HAD NOT MADE A 'PREPARE FOR LNDG' PA, THE FLT ATTENDANTS WERE STILL IN THEIR SEATS. NO INJURIES TO CREW OR PAX ALTHOUGH SEVERAL PEOPLE COMPLAINED OF ROLL. THE #1 GALLEY AND LOST ALL OF ITS BOTTLES/GLASSES THAT WERE OUT AND ANY DRINKS THAT CUSTOMERS HAD IN EITHER CABIN TURNED OVER. NO BAGS WERE RPTD TO HAVE FALLEN OUT OF THE OVERHEAD. REPEAT -- NO RPTD INJURIES. AFTER THE ACFT WAS STABLE AND SIT WAS UNDER CTL I MADE A PA TO THE PEOPLE EXPLAINING WHAT HAPPENED. I SUSPECT THAT THE B747 HAD PUT OUT ITS APCH FLAPS TO AID IN ITS DSCNT RATE WITHOUT USING SPDBRAKES. WE UNFORTUNATELY FLEW INTO THE AIR THAT HAD BEEN DISTURBED BY THE CONFIGN CHANGE. I WOULD LIKE TO COMMAND THE FO FOR HIS GOOD AIRMANSHP IN GETTING THE ACFT BACK UNDER CTL WITHOUT OVERCTLING THE SIT AND AGGRAVATING THE PROB. I SAW NO NEED TO OVERRIDE HIS INPUTS AS THEY WERE CORRECT AND MOST APPROPRIATE FOR THE SIT. HE KEPT HIS HEAD AND MADE SMOOTH CORRECTIONS WITHOUT AN ABRUPT PITCH MOMENT THAT COULD HAVE CAUSED US TO DEPART UNDER THE HIGH ROLL RATE. REQUEST THIS INCIDENT AND HIS CORRECT RESPONSE BE RECORDED IN HIS RECORDS. CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING INFO: THE B727 CAPT WANTS AN ADVISORY ISSUED BY ANY CREW THAT IS IN THE POS FACED BY THE B747 CREW, EXTENDING FLAPS AT AN EARLIER POINT IN TIME THAT MIGHT AFFECT WAKE TURB SEPARATION VALUES. ATC HAD ISSUED A WAKE TURB ADVISORY TO THIS CREW PRIOR TO THE DSCNT, WHICH IS WHY THEY WAITED A SHORT TIME TO START DSCNT. THE FO WAS FLYING THE B727 AND HAD JUST STARTED BRINGING THE PWR BACK TO START A DSCNT WHEN THE B727 HIT THE FIRST SHOCK. THE B727 WAS 'CLEAN' AND AT 250 KTS. THE ACFT OSCILLATED THROUGH PITCH, ROLL AND YAW AND LOST ABOUT 50 FT BOTH TIMES DURING THE FIRST AND SECOND SHOCK, THE SECOND LASTING A BIT LONGER THAN THE FIRST. ON A SCALE OF 1-5 THE SHOCK WAS A #3. THE VISIBILITY WASN'T THE BEST, MARGINAL VMC WITH ABOUT 3 MI AT OUR ALT, A HAZY DAY.

Synopsis :

A B727 DSNDING 8 MI BEHIND AND 1000 FT ABOVE A B747 RUNS INTO THE WAKE TURB CREATED BY A B747 WHO HAD UNEXPECTEDLY DEPLOYED WING FLAPS FOR A MORE RAPID DSCNT.

## Time

Date : 199904

Day : Sun

Local Time Of Day : 0601 To 1200

## Place

Locale Reference.Airport : LAX.Airport

State Reference : CA

Altitude.AGL.Single Value : 50

## Environment

Flight Conditions : Marginal

## Aircraft / 1

Controlling Facilities.Tower : LAX.Tower

Make Model : B757 Undifferentiated or Other Model

## Aircraft / 2

Controlling Facilities.Tower : LAX.Tower

Make Model : Commercial Fixed Wing

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 17000

Experience.Flight Time.Last 90 Days : 200

Experience.Flight Time.Type : 2000

ASRS Report : 432908

## Person / 2

Function.Flight Crew : First Officer

## Person / 3

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 4

Function.Controller : Local

## Events

Anomaly.Inflight Encounter : Wake Turbulence

Independent Detector.Other.Flight CrewA : 1

Independent Detector.Other.Flight CrewB : 2

Resolatory Action.Flight Crew : Executed Go Around

Resolatory Action.Flight Crew : Took Precautionary Avoidance Action

Consequence.FAA : Reviewed Incident With Flight Crew

## Supplementary

Problem Areas : Airport

Problem Areas : ATC Human Performance

Problem Areas : Environmental Factor

Problem Areas : Flight Crew Human Performance

Narrative :

IN SUM: B757 CREW ARRIVING LAX MAKING APCH AND LNDG TO RWY 25R. AT ABOUT 1500 FT AGL, AN ACFT ON TXWY F WAS CLRED INTO POS ON RWY 25L. AT 50 FT AGL, RPTR ACFT EXPERIENCED UNCTLABLE ROLL FROM JETBLAST AND INITIATED GAR. THE SCENARIO WAS REPEATED FOR A SECOND GAR BEFORE THE LAX TWR STOPPED CLRING ACFT INTO POS IN FRONT OF TFC ON SHORT FINAL. THE RPTR CONTACT THE TWR OPERATOR AT THE TIME AND DISCUSSED THE SEVERITY OF THE SIT THAT WAS CREATED AND EXPRESSED ABOUT THE SAFETY OF OTHER ACFT LNDG UNDER SIMILAR CONDITIONS.

Synopsis :

B757 MULTIPLE GARS BECAUSE OF JETBLAST AT LOW ALTS CAUSING CTLABILITY PROBS AT LAX.



## Time

Date : 199904

Day : Sat

Local Time Of Day : 0601 To 1200

## Place

Locale Reference.Airport : OMA.Airport

State Reference : NE

Altitude.AGL.Single Value : 0

## Environment

Flight Conditions : IMC

## Aircraft / 1

Controlling Facilities.Tower : OMA.Tower

Make Model : Any Unknown or Unlisted Aircraft Manufacturer

## Person / 1

Function.Flight Crew : Single Pilot

Experience.Flight Time.Total : 800

Experience.Flight Time.Last 90 Days : 50

Experience.Flight Time.Type : 500

ASRS Report : 433226

## Person / 2

Function.Controller : Local

## Events

Anomaly.Inflight Encounter : Turbulence

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Other Anomaly : Loss Of Aircraft Control

Resolatory Action.Flight Crew : Rejected Takeoff

Consequence.Other : Aircraft Damaged

## Supplementary

Problem Areas : Flight Crew Human Performance

Problem Areas : Weather

Narrative :

PREFLT AND TAXI WERE NORMAL. ENG RUNUP NORMAL. A B737 DEPARTED THE PARALLEL RWY (RWY 32L). WE WERE CLRED TO DEPART ON RWY 32R. THE WIND WAS FROM 240 DEGS. I NOTED THAT THE MIDFIELD WINDSOCK WAS FULLY EXTENDED, HOWEVER, THE WINDSOCK NEAREST ME WAS LIMP. THE INITIAL TKOF ROLL WAS NORMAL. AT ROTATION SPD, THE NOSEWHEEL CAME OFF THE GND, THEN THERE WAS AN IMMEDIATE VEER TO THE L. MY INITIAL THOUGHT WAS THAT THE L MAIN TIRE HAD BLOWN. THE SENSATION WAS ONE OF LOSS OF LIFT, ACCOMPANIED BY WHAT FELT LIKE A STRONG PUSH ON THE L SIDE OF THE TAIL. I IMMEDIATELY GAVE FORCEFUL R RUDDER. SINCE THE NOSEWHEEL WAS NOT IN CONTACT WITH THE GND, THERE WAS NO STEERING EFFECT. ALSO, I DON'T BELIEVE I HAD RUDDER EFFECTIVENESS, AS THE NOSE DID NOT COME AROUND TO THE R. BY THIS TIME, IT WAS OBVIOUS THAT WE WERE DEPARTING THE RWY INTO THE GRASS. THEREFORE, I LEVELED THE WINGS, BROUGHT THE PWR TO IDLE, AND SETTLED INTO THE INFELD GRASS (BTWN RWY 32L AND RWY 32R). BECAUSE OF HVY RAIN THE NIGHT BEFORE, THE ACFT BECAME MIRED IN THE MUD, BENDING THE INNER GEAR DOORS. THE GND OPS CREW PULLED THE AIRPLANE FROM THE MUD, AND THE PLANE WAS TAXIED BACK TO ITS HANGAR UNDER ITS OWN PWR. THE ACFT SUSTAINED MINOR BENDING OF THE 2 INNER MAIN GEAR DOORS, AND ADDITIONAL DAMAGE TO THE R OUTER GEAR DOOR. ALSO, THERE WAS MINOR SCRAPING OF SHEET METAL BENEATH THE R ELEVATOR, PRESUMABLY FROM GRASS/BRUSH CONTACT. THERE WAS NO AIRFOIL, ENG, PROP DAMAGE, THERE WERE NO INJURIES. THERE WERE NO OTHER ACFT INVOLVED. I BELIEVE THAT AT ROTATION THERE WAS A SUDDEN WIND CHANGE FROM WNW, TO THE SSW. THIS RESULTED IN LOSS OF LIFT AND AIRSPD, AS WELL AS DIRECTIONAL CTL. ALSO, THERE MAY HAVE BEEN WAKE TURB FROM THE PRIOR JET DEP THAT WAS BLOWN ACROSS MY RWY. I BELIEVE THE ACFT WOULD NOT HAVE SUSTAINED ANY DAMAGE IF THE GND WERE NOT SATURATED FROM THE PREVIOUS RAIN. I DID NOTE THAT THE NEXT ARRIVING ACFT LANDED TO THE S, INDICATING A CHANGE IN WIND DIRECTION. I BELIEVE MY ACTION TO LEVEL THE WINGS, REDUCE PWR AND 'FLY THE AIRPLANE' PREVENTED A MORE SERIOUS INCIDENT FROM OCCURRING. PERHAPS WAITING AT THE END OF THE RWY LONGER OR WAITING UNTIL THE WINDS DECREASED COULD HAVE PREVENTED THE INCIDENT.

Synopsis :

PVT INST RATED PLT LOST CTL OF THE ACFT DURING TKOF IN A XWIND RESULTING IN RUNNING OFF THE SIDE OF THE RWY INTO THE MUDDY GRASS MIDFIELD AREA BTWN PARALLEL RWYS.

**ACN: 435010**

**Time**

Date : 199904

Day : Mon

Local Time Of Day : 1201 To 1800

**Place**

Locale Reference.ATC Facility : ZLA.ARTCC

State Reference : CA

**Aircraft / 1**

Controlling Facilities.ARTCC : ZLA.ARTCC

Make Model : B737-700

**Person / 1**

Function.Oversight : Flight Attendant In Charge

ASRS Report : 435010

**Person / 2**

Function.Observation : Passenger

**Person / 3**

Function.Oversight : PIC

Function.Flight Crew : Captain

**Events**

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Non Adherence : Company Policies

Anomaly.Non Adherence : FAR

Anomaly.Non Adherence : Published Procedure

Resolatory Action.None Taken : Anomaly Accepted

Consequence.Other : Emotional Trauma

Consequence.Other : Physical Injury

Narrative :

THIS IS A SIT THAT CAN OCCUR AT ANY TIME, PRIMARILY BECAUSE PAX IGNORE THE FASTEN SEATBELT SIGN AND REPEATED WARNINGS FROM THE CABIN CREWS. PAX FEEL THAT THEIR PHYSIOLOGICAL NEEDS TAKE PRIORITY OVER THEIR PERSONAL SAFETY AND THUS ENDANGER THEMSELVES AND OTHER PAX. ALTHOUGH I WAS NOT IN THE AREA TO WITNESS THE INCIDENT, A FEMALE PAX WITH AN INFANT IN HER ARMS VISITED THE AFT LAVATORY, DESPITE THE ILLUMINATION OF THE 'FASTEN SEATBELT' SIGN AND THE REQUIRED ANNOUNCEMENTS THAT ADVISED PAX TO REMAIN IN THEIR SEATS WITH SEATBELT FASTENED. WE INCURRED WAKE TURB FROM A WDB ACFT PRECEDING US, CAUSING THE ACFT TO YAW AND ROLL SLIGHTLY. THE EFFECT IN THE AFT SECTION IS MORE PRONOUNCED, AND THE SUDDEN MOVEMENT CAUSED THE FEMALE ADULT TO HIT HER HEAD AND CUT HER NOSE (ON THE BRIDGE OF THE NOSE). SHE DECLINED MEDICAL ATTN OTHER THAN A BAND-AID. GND PERSONNEL WERE ADVISED AND OFFERED FURTHER ASSISTANCE, WHICH AGAIN WAS DECLINED.

Synopsis :

FLT ATTENDANT RPT B737 ORD-LAX, SEAT BELT SIGN ON, PAX INJURED STANDING, WAKE TURB, LAX APCH.

## Time

Date : 199905

Day : Sat

Local Time Of Day : 0601 To 1200

## Place

Locale Reference.Airport : ATL.Airport

State Reference : GA

Altitude.AGL.Single Value : 2000

## Environment

Flight Conditions : VMC

## Aircraft / 1

Controlling Facilities.TRACON : ATL.TRACON

Make Model : B727 Undifferentiated or Other Model

## Aircraft / 2

Controlling Facilities.TRACON : ATL.TRACON

Make Model : B727 Undifferentiated or Other Model

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 11000

Experience.Flight Time.Last 90 Days : 180

Experience.Flight Time.Type : 4000

ASRS Report : 436642

## Person / 2

Function.Flight Crew : First Officer

## Person / 3

Function.Flight Crew : Second Officer

## Person / 4

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 5

Function.Controller : Approach

## Events

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Non Adherence : Clearance

Anomaly.Other Anomaly : Speed Deviation

Independent Detector.Other.Flight CrewA : 1

Independent Detector.Other.Flight CrewB : 2

Resolatory Action.Flight Crew : Exited Adverse Environment

## Supplementary

Problem Areas : Airspace Structure

Problem Areas : Flight Crew Human Performance

Narrative :

GIVEN VISUAL APCH TO FOLLOW PREVIOUS ACFT (DUE TO OVERZEALOUS, OVER ACCOMMODATING FO). HIT WAKE TURB OF ACFT 2-3 NM IN FRONT OF US. SLOWED ACFT BELOW ASSIGNED SPD AFTER SECOND ENCOUNTER. NO FURTHER ENCOUNTERS. NO SIGNIFICANT ROLL/PITCH/YAW DEFLECTION, JUST RAPID LOAD FACTOR INCREASE. SURFACE WIND 270-300 DES AT 11 KTS.

Synopsis :

B727 FLC ENCOUNTERS WAKE TURB ON APCH TO ATL.

## Time

Date : 199905

Day : Thu

Local Time Of Day : 0601 To 1200

## Place

Locale Reference.Airport : DFW.Airport

State Reference : TX

Altitude.MSL.Single Value : 2000

## Environment

Flight Conditions : VMC

## Aircraft / 1

Controlling Facilities.Tower : DFW.Tower

Make Model : MD-88

## Aircraft / 2

Controlling Facilities.Tower : DFW.Tower

Make Model : B737-800

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 14000

Experience.Flight Time.Last 90 Days : 250

Experience.Flight Time.Type : 2500

ASRS Report : 437603

## Person / 2

Function.Flight Crew : First Officer

## Person / 3

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 4

Function.Controller : Local

## Events

Anomaly.Conflict : Airborne Less Severe

Anomaly.Inflight Encounter : Wake Turbulence

Independent Detector.Other.Flight CrewA : 1

Resolatory Action.None Taken : Anomaly Accepted

## Supplementary

Problem Areas : Airport

Problem Areas : ATC Human Performance

Problem Areas : Environmental Factor

Problem Areas : Flight Crew Human Performance

Narrative :

DURING VISUAL APCH FOLLOWING B737 TO ARPT ENCOUNTERED SIGNIFICANT ROLL DUE TO WAKE TURB. ACFT APPROX 2 1/2 MI AHEAD. LARGE AILERON AND RUDDER INPUTS NEEDED TO STOP ROLL AND RIGHT ACFT. THIS EVENT HAS DEMONSTRATED TO ME A NEED FOR INCREASED SEPARATION FOLLOWING THE NEW GENERATION B737'S.

Synopsis :

PLT OF MD88 ACFT, 2 PT 5 MI IN-TRAIL OF B737-800 ACFT, ENCOUNTERS WAKE TURB.



## Time

Date : 199905

Day : Mon

Local Time Of Day : 0601 To 1200

## Place

Locale Reference.Airport : ORD.Airport

State Reference : IL

Altitude.MSL.Single Value : 4600

## Environment

Flight Conditions : Mixed

## Aircraft / 1

Controlling Facilities.Tower : ORD.Tower

Make Model : King Air C90 E90

## Aircraft / 2

Controlling Facilities.Tower : ORD.Tower

Make Model : B727 Undifferentiated or Other Model

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 8000

Experience.Flight Time.Last 90 Days : 40

Experience.Flight Time.Type : 1500

ASRS Report : 437909

## Person / 2

Function.Flight Crew : First Officer

## Person / 3

Function.Oversight : PIC

Function.Flight Crew : Captain

## Events

Anomaly.Other Spatial Deviation : Track Or Heading Deviation

Anomaly.Altitude Deviation : Undershoot

Anomaly.Conflict : Airborne Less Severe

Anomaly.Inflight Encounter : Turbulence

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Non Adherence : Clearance

Anomaly.Non Adherence : FAR

Anomaly.Non Adherence : Published Procedure

Anomaly.Non Adherence : Required Legal Separation

Independent Detector.Other.ControllerA : 3

Resolatory Action.Controller : Issued Alert

Resolatory Action.Controller : Issued New Clearance

Resolatory Action.Controller : Separated Traffic

## Supplementary

Problem Areas : Airspace Structure

Problem Areas : Environmental Factor

Problem Areas : Flight Crew Human Performance

Narrative :

ATIS WAS CALLING THE WX ABOUT 2500 FT OVCST, 10 MI VISIBILITY, WINDS 320 DEGS GUSTING TO 13 KTS, SIMULTANEOUS APCHS RWY 27L&R. WE WERE TALKING WITH APCH AND TOLD TO EXPECT THE L SIDE. WE BRIEFED THE APCH. AFTER SEVERAL TURNS BECAUSE OF HVY TFC AND A DSCNT TO 5000 FT, WE WERE CLRED FOR THE ILS RWY 27L, 5000 FT UNTIL ESTABLISHED, 170 KTS TO WILLT, CALL THE TWR AT WILLT, 120.75, CAUTION, WAKE TURB, YOU'RE FOLLOWING A B727. AT THIS POINT, WE WERE JUST OUTSIDE WAVIE, AND DECIDED TO FLY A LITTLE HIGH ON THE GS AND 1/2 - 1 DOT UPWIND TO AVOID THE PRECEDING ACFT'S WAKE. TOPS WERE ABOUT 8000 FT VARIABLE, SO WE WERE IMC. WHILE DSNDING THROUGH ABOUT 4700 FT MSL, THE MONITOR CTLR SAID 'TURN L IMMEDIATELY, DO NOT DSND, CLB TO 5000 FT, MAINTAIN 5000 FT UNTIL ON THE LOC. YOU ARE CLOSE TO AN ACFT (OR WORDS TO THAT EFFECT) ON THE ILS RWY 27R.' WE COMPLIED IMMEDIATELY, REINTERCEPTED, AND CONTINUED THE APCH UNEVENTFULLY. HAVING FLOWN ALL AROUND THE UNITED STATES DURING THE PAST 20 YRS, I CONSIDER THE ORD CTLRS AMONG THE BEST. I HAVE ALSO FLOWN INTO AND OUT OF ORD HUNDREDS OF TIMES, USING THE SAME TECHNIQUE, BUT THIS WAS THE FIRST TIME I HAD RECEIVED AN ALERT FROM A MONITOR. ALTHOUGH STILL PUZZLED BY THE SEEMING CONTRADICTION BTWN WAKE AVOIDANCE AND PROTECTED AIRSPACE, OTHER PLTS I SPOKE WITH LATER SAID THEY WOULD HAVE STAYED ON THE LOC, BUT FLOWN HIGH ON THE GS. PERHAPS THIS CAN BENEFIT SOMEONE ELSE.

Synopsis :

A KING AIR TURBO DEVIATES FROM THE ILS COURSE AND GS ON AN APCH TO ORD RWY 27L TO AVOID WAKE TURB OF A B727 AHEAD. VECTORED OFF BY APCH FOR ANOTHER TRY.

## Time

Date : 199906

Day : Fri

Local Time Of Day : 1201 To 1800

## Place

Locale Reference.Airport : PHL.Airport

State Reference : PA

Altitude.AGL.Single Value : 0

## Environment

Flight Conditions : VMC

## Aircraft / 1

Controlling Facilities.Tower : PHL.Tower

Make Model : Light Transport, Low Wing, 2 Turbojet Eng

## Aircraft / 2

Controlling Facilities.Tower : PHL.Tower

Make Model : B737-300

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 6000

Experience.Flight Time.Last 90 Days : 75

Experience.Flight Time.Type : 70

ASRS Report : 439112

## Person / 2

Function.Controller : Local

## Person / 3

Function.Flight Crew : First Officer

## Person / 4

Function.Oversight : PIC

Function.Flight Crew : Captain

## Events

Anomaly.Conflict : Airborne Critical

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Non Adherence : Published Procedure

Resolatory Action.Flight Crew : Regained Aircraft Control

## Supplementary

Problem Areas : ATC Human Performance

Problem Areas : Flight Crew Human Performance

Narrative :

AFTER CLRED FOR LNDG ON RWY 35 (5400 FT OF RWY) I OBSERVED THAT A B737 WAS CLRED FOR TKOF ON RWY 9L. THAT ACFT CLRED OUR INTERSECTING RWY AT ABOUT 50 FT OFF THE GND WHILE WE WERE ON ABOUT 1/2 MI FINAL. AS WE CROSSED RWY 9L ON RWY 35 FOR LNDG AT ABOUT 20 FT WE WERE PUSHED SIDEWAYS AND DOWN WITH THE WAKE OF THE B737. IT WAS ON THE VERGE OF BEING A DISASTER. I RECOVERED AND LANDED. I WAS HVY IN WT AND HAD 8 PEOPLE ON BOARD. 1 SPLIT SECOND LONGER AND I WAS GOING AROUND.

Synopsis :

CPR ACFT ENCOUNTERS WAKE TURB FROM ACR ACFT DEPARTING A XING RWY.

## Time

Date : 199906

Day : Mon

Local Time Of Day : 0601 To 1200

## Place

State Reference : FO

Altitude.MSL.Bound Lower : 30300

Altitude.MSL.Bound Upper : 31000

## Environment

Flight Conditions : VMC

## Aircraft / 1

Controlling Facilities.ARTCC : EGTT.ARTCC

Make Model : B777 Undifferentiated or Other Model

## Person / 1

Function.Flight Crew : First Officer

Experience.Flight Time.Total : 20000

Experience.Flight Time.Last 90 Days : 250

Experience.Flight Time.Type : 300

ASRS Report : 439573

## Person / 2

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 4

Function.Controller : Radar

## Events

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Other Anomaly : Loss Of Aircraft Control

Resolatory Action.Flight Crew : Diverted To Another Airport

Resolatory Action.Flight Crew : Landed As Precaution

Consequence.Other : Physical Injury

## Supplementary

Problem Areas : Environmental Factor

Problem Areas : Weather

Narrative :

WE DEPARTED LHR FOR EWR AT XA00. I WAS HAND-FLYING THE ACFT PRIOR TO REACHING OUR ASSIGNED FL310. CONDITIONS WERE VFR AND VERY SMOOTH. THE FLT ATTENDANTS WERE IN THE AISLE. AT APPROX FL303 WE ENCOUNTERED SEVERE TURB. SPD INCREASED TO THE RED LINE FOLLOWED BY ROLLS IN BOTH DIRECTIONS. DURATION WAS APPROX 30 SECONDS. 4 FLT ATTENDANTS WERE INJURED. ONE BROKE BONES IN HER FOOT. WE RETURNED TO LHR. NO OTHER ACFT RPTED TURB. I SUSPECT WE HIT WAKE TURB.

Synopsis :

FLC OF A B777 RETURNED TO LAND AFTER 4 FLT ATTENDANTS WERE INJURED AS A RESULT OF EXPERIENCING SEVERE TURB DURING CLB JUST PRIOR TO LEVELOFF.

**ACN: 439881**

## **Time**

Date : 199906

Day : Tue

Local Time Of Day : 0601 To 1200

## **Place**

Locale Reference.Airport : AUS.Airport

State Reference : TX

Altitude.AGL.Single Value : 400

## **Environment**

Flight Conditions : VMC

## **Aircraft / 1**

Controlling Facilities.Tower : AUS.Tower

Make Model : MD-80 Series (DC-9-80) Undifferentiated or Other Model

## **Aircraft / 2**

Controlling Facilities.Tower : AUS.Tower

Make Model : B737 Undifferentiated or Other Model

## **Person / 1**

Function.Oversight : PIC

Function.Flight Crew : Captain

ASRS Report : 439881

## **Person / 2**

Function.Flight Crew : First Officer

## **Person / 3**

Function.Oversight : PIC

Function.Flight Crew : Captain

## **Person / 4**

Function.Controller : Local

## **Events**

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Non Adherence : Published Procedure

Independent Detector.Other.Flight CrewA : 1

Resolutive Action.Flight Crew : Exited Adverse Environment

Resolutive Action.Flight Crew : Took Evasive Action

Resolutive Action.None Taken : Detected After The Fact

Consequence.Other : Maintenance Action

## **Supplementary**

Problem Areas : ATC Human Performance

Narrative :

DURING CLBOUT AT 400 FT AGL, RECEIVED AURAL AND RED WINDSHEAR ALERT. ACCOMPLISHED ESCAPE MANEUVER AS PER ACFT MANUAL. OVERTEMPED BOTH ENGS FOR 10-15 SECONDS. SUSPECT WAKE TURB FROM ACFT THAT JUST DEPARTED AHEAD. ALL ENG PARAMETERS AND SYS WERE NORMAL DURING REMAINDER OF CLB. ADVISED TWR OF WINDSHEAR ALERT. ADVISED DISPATCH OF SIT AND CONTINUED TO DFW. CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING INFO: RPTR INDICATED THAT THE ACFT TAKING OFF IMMEDIATELY AHEAD WAS A B737. IT WAS AT THE LIFTOFF POINT WHEN RPTR RECEIVED TKOF CLRNC. THERE ARE PARALLEL RWYS AT THIS ARPT BUT THEY WERE NOT BEING USED AT THE TIME SO WITH A QUARTERING HEADWIND OF APPROX 10 KTS THEY SHOULD NOT HAVE BEEN A FACTOR. NO SIGNIFICANT WX WAS IN THE AREA AND NO OTHER RPTS WERE MADE BY TWR OR OTHER ACFT. CREW PERFORMED THE WINDSHEAR ALERT RECOVERY PER COMPANY POLICY, EVEN THOUGH WHEN REVIEWING THE SIT ASSUMED THE ALERT WAS THE RESULT OF WAKE FROM THE B737. CREW ELECTED TO CONTINUE A SHORT 20 MIN FLT TO DEST WHICH WAS ALSO THEIR MAINT BASE. IT WAS DETERMINED THAT NO DAMAGE WAS DONE TO ENGS.

Synopsis :

ACR ENCOUNTERS WAKE TURB AT 400 FT DURING INITIAL CLB AFTER TKOF.



## Time

Date : 199906

Day : Sun

Local Time Of Day : 1801 To 2400

## Place

Locale Reference.Airport : SEA.Airport

State Reference : WA

Altitude.AGL.Bounds Lower : 30

Altitude.AGL.Bounds Upper : 50

## Environment

Flight Conditions : VMC

## Aircraft / 1

Controlling Facilities.Tower : SEA.Tower

Make Model : Dash 8 Series Undifferentiated or Other Model

## Person / 1

Function.Flight Crew : First Officer

Experience.Flight Time.Total : 5500

Experience.Flight Time.Last 90 Days : 150

Experience.Flight Time.Type : 2200

ASRS Report : 441191

## Person / 2

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 3

Function.Controller : Local

## Events

Anomaly.Inflight Encounter : Wake Turbulence

Independent Detector.Other.Flight CrewA : 1

Independent Detector.Other.Flight CrewB : 2

Resolatory Action.Flight Crew : Regained Aircraft Control

## Supplementary

Problem Areas : ATC Human Performance

Problem Areas : Weather

Narrative :

DEPARTED BEHIND B737, ENCOUNTERED DEAD CTR OF WINGTIP VORTICES, ROLLED RAPIDLY 30 DEGS L, USED NEARLY FULL R AILERONS TO COUNTER, WE LEVELED AND THEN IMMEDIATELY ENCOUNTERED IT AGAIN, 'NOT THE NORMAL RIPPLE.' THIS TIME ROLL RATE WAS FASTER AND FULL AILERON DID NOT STOP ROLL, USED 1/2 TO 3/4 OF RUDDER TO COUNTER ROLL WHICH WORKED. WE WERE THEN ABLE TO SIDESTEP THE REMAINING WAKE.

Synopsis :

AN ACR FLC FLYING A DHC-8 ON TKOF EXPERIENCED WAKE TURB FROM A B737 THAT DEPARTED IN FRONT OF THEM.

**Time**

Date : 199906

Day : Sun

Local Time Of Day : 0601 To 1200

**Place**

Locale Reference.Airport : MIA.Airport

State Reference : FL

Altitude.AGL.Single Value : 100

**Aircraft / 1**

Controlling Facilities.Tower : MIA.Tower

Make Model : MD-80 Super 80

**Aircraft / 2**

Controlling Facilities.Tower : MIA.Tower

Make Model : A300

**Person / 1**

Function.Flight Crew : First Officer

ASRS Report : 441440

**Person / 2**

Function.Oversight : PIC

Function.Flight Crew : Captain

**Person / 3**

Function.Oversight : PIC

Function.Flight Crew : Captain

**Person / 4**

Function.Controller : Local

**Events**

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Other Anomaly : Loss Of Aircraft Control

Resolatory Action.Flight Crew : Executed Go Around

Resolatory Action.Flight Crew : Regained Aircraft Control

**Supplementary**

Problem Areas : Airport

Problem Areas : Airspace Structure

Problem Areas : Weather

Narrative :

WAKE TURB UPSET. FO FLYING RWY 9L ILS VISUAL. APPROX 6-7 MI BEHIND AIRBUS 300. AT 100 FT AGL ACFT ROLLED UNCOMMANDED HARD L. FO APPLIED FULL R RUDDER AND STOPPED ROLL AT ABOUT 30 DEGS L WING DOWN AND INITIATED A GAR AS ACFT SETTLED BELOW 100 FT AND L OF RWY. AFTER GAR A VISUAL APCH WAS FLOWN TO LNDG ON RWY 9R.

Synopsis :

MD80 CREW ENCOUNTERED WAKE TURB.

**Time**

Date : 199907

Day : Fri

Local Time Of Day : 1201 To 1800

**Place**

State Reference : IL

Altitude.MSL.Bound Lower : 13000

Altitude.MSL.Bound Upper : 13500

**Environment**

Flight Conditions : VMC

**Aircraft / 1**

Controlling Facilities.TRACON : C90.TRACON

Make Model : B747-400

**Person / 1**

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 20000

Experience.Flight Time.Last 90 Days : 160

Experience.Flight Time.Type : 1400

ASRS Report : 442050

**Person / 2**

Function.Flight Crew : First Officer

Experience.Flight Time.Total : 10000

Experience.Flight Time.Last 90 Days : 190

Experience.Flight Time.Type : 960

ASRS Report : 442047

**Person / 3**

Function.Controller : Departure

**Events**

Anomaly.Altitude Deviation : Overshoot

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Non Adherence : Clearance

Independent Detector.Aircraft Equipment : Altitude Alert

Independent Detector.Other.Flight CrewA : 1

Independent Detector.Other.Flight CrewB : 2

Resolatory Action.Flight Crew : Returned To Assigned Altitude

**Supplementary**

Problem Areas : Environmental Factor

Problem Areas : Flight Crew Human Performance

Narrative :

THE FO WAS HAND FLYING THE FLT FROM ORD. THE FLT WAS AN UNKNOWN DISTANCE BEHIND A B747, AND ASSIGNED 13000 FT BY ATC. APCHING 13000 FT, TURB (PROBABLY FROM THE B747) WAS ENCOUNTERED, WHICH IN ADDITION TO DIVERTING THE PLT'S ATTN FROM THE LEVELOFF TO AN OUTSIDE SCAN FOR THE PRECEDING ACFT, ALSO INCREASED THE PITCH ATTITUDE RESULTING IN AN INCREASE CLB RATE. AT APPROX 13300 FT THE PITCH WAS LOWERED TO A DSCNT ATTITUDE, HOWEVER, THE ACFT CONTINUED TO CLB. FURTHER PITCH DECREASE RETURNED THE ACFT TO 13000 FT. TOTAL ALT OVERSHOOT WAS APPROX 450-500 FT.

Synopsis :

B747-400 FLC ENCOUNTERS TURB AND OVERSHOOTS ASSIGNED ALT DEP ORD.

**Time**

Date : 199907

Day : Sun

Local Time Of Day : 1201 To 1800

**Place**

Locale Reference.Airport : JFK.Airport

State Reference : NY

Altitude.MSL.Single Value : 1500

**Aircraft / 1**

Controlling Facilities.Tower : JFK.Tower

Make Model : B757 Undifferentiated or Other Model

**Aircraft / 2**

Controlling Facilities.Tower : JFK.Tower

Make Model : B747 Undifferentiated or Other Model

**Person / 1**

Function.Flight Crew : First Officer

ASRS Report : 443799

**Person / 2**

Function.Oversight : PIC

Function.Flight Crew : Captain

ASRS Report : 443803

**Person / 3**

Function.Oversight : PIC

Function.Flight Crew : Captain

**Person / 4**

Function.Controller : Local

**Events**

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Non Adherence : Clearance

Independent Detector.Other.ControllerA : 4

Resolatory Action.None Taken : Detected After The Fact

Consequence.FAA : Reviewed Incident With Flight Crew

**Supplementary**

Problem Areas : Flight Crew Human Performance

Narrative :

WHEN WE CONTACTED THE TWR THEY ASKED US TO MAINTAIN 170 KTS TO CRI VOR. WE THEN BEGAN TO INCREASE TO 170 KTS WHEN WE ENCOUNTERED THE WAKE FROM THE B747. AFTER FLYING OUT OF THE WAKE WE NEVER DID GET BACK UP TO 170 KTS. THE TWR ASKED OUR SPD AND HE WAS 'DISPLEASED' WITH OUR FAILURE TO ADVISE HIM IN A TIMELY MANNER THAT WE WERE NOT AT 170 KTS.

Synopsis :

A B757 FLC FAILED TO ADVISE JFK TWR THAT IT WAS NECESSARY TO REDUCE SPD BELOW THE ASSIGNED AIRSPD.



## Time

Date : 199907

Day : Mon

Local Time Of Day : 0601 To 1200

## Place

Locale Reference.Airport : LAX.Airport

State Reference : CA

Altitude.AGL.Single Value : 0

## Environment

Flight Conditions : VMC

## Aircraft / 1

Controlling Facilities.Tower : LAX.Tower

Make Model : SF 340b

## Aircraft / 2

Controlling Facilities.Tower : LAX.Tower

Make Model : B757-200

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 6950

Experience.Flight Time.Last 90 Days : 240

Experience.Flight Time.Type : 1320

ASRS Report : 444197

## Person / 2

Function.Flight Crew : First Officer

## Person / 3

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 4

Function.Controller : Local

## Events

Anomaly.Conflict : Airborne Less Severe

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Non Adherence : Published Procedure

Independent Detector.Other.Flight CrewA : 1

Resolutive Action.Flight Crew : Took Precautionary Avoidance Action

Resolutive Action.Controller : Issued Advisory

Resolutive Action.Controller : Issued New Clearance

## Supplementary

Problem Areas : Aircraft

Problem Areas : Airport

Problem Areas : ATC Human Performance

Problem Areas : Flight Crew Human Performance

Narrative :

LAX TWR CLRED US TO LAND BEHIND A B757 AND ADDED, 'CAUTION, WAKE TURB.' AS PER OUR FLT MANUAL AND THE AIM, WE FLEW ABOVE THE B757'S GLIDE PATH AND LANDED BEYOND ITS TOUCHDOWN POINT. AS I WAS LOWERING THE NOSEWHEEL TO THE GND, THE TWR HURRIEDLY SAID 'CAN YOU MAKE ONE OF THE HIGH-SPDS?' THE FO, REACTING TO THE IMPLIED URGENCY, REPLIED THAT WE WILL MAKE TXWY K. I IMMEDIATELY SAID NO, AND THAT WE WOULD MAKE TXWY M. THE FO INFORMED THE TWR. THIS WAS IMMEDIATELY AFTER HIS FIRST REPLY. I BRAKED AND PULLED THE PLANE ONTO HIGH-SPD TXWY M, ON THE R SIDE OF RWY 25L. AS WE WERE XING THE LINE THE TWR SAID, 'TURN OFF L ONTO A7.' THIS WAS IMPOSSIBLE TO DO QUICKLY AND WE HAD ALREADY JERKED THE PAX AROUND. THE TWR, SEEING WE WERE ALREADY ON TXWY M INSTRUCTED US TO PULL UP AS TIGHT AS WE CAN BEHIND THE FIRST ACFT. A MIN LATER THE TWR SAID TO US THAT 'WHEN WE TELL THEM TXWY K, THEY PLAN ON THAT.' WE REPLIED THAT THEIR REQUEST WAS TOO LATE. THE REASON FOR THE TWR'S PANIC WAS THAT THE PLANE BEHIND US WAS TOO CLOSE. THIS PLANE, WAS ON A VISUAL APCH, AS WE ALL WERE. SEPARATION IS THEIR RESPONSIBILITY. THE TWR SHOULD HAVE EXPECTED OUR COMPLIANCE WITH WAKE SEPARATION PROCS AFTER THEY HAD ISSUED US THE WARNING. FURTHERMORE, IN THE PERHAPS 2 SECONDS BTWN THE FO'S 2 REPLIES, THE TWR HAD NO TIME TO PLAN ANYTHING AT ALL, BUT TO HOPE THAT WE COULD SAVE THEIR DAY. IT SEEMS THAT LAX TWR ISSUES THESE WAKE TURB WARNINGS OUT OF HABIT, BUT WITH NO THOUGHT AS TO WHAT THIS REQUIRES OF THE FLC'S.

Synopsis :

SF34 ACR PIC REJECTS LAX TWR REQUEST FOR EARLY RWY TURN OFF DUE TO TFC ON SHORT FINIAL. SF34 FLC HAD JUST ADJUSTED FLT PATH TO ACCOMMODATE WAKE TURB.

**ACN: 445500**

## **Time**

Date : 199907

Day : Fri

Local Time Of Day : 0601 To 1200

## **Place**

State Reference : CA

Altitude.MSL.Single Value : 36500

## **Environment**

Flight Conditions : VMC

## **Aircraft / 1**

Controlling Facilities.ARTCC : ZLA.ARTCC

Make Model : A320

## **Aircraft / 2**

Controlling Facilities.ARTCC : ZLA.ARTCC

Make Model : B757-200

## **Person / 1**

Function.Flight Crew : First Officer

## **Person / 2**

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 15000

ASRS Report : 445500

## **Person / 3**

Function.Controller : Radar

## **Events**

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Other Anomaly : Loss Of Aircraft Control

Independent Detector.Other.Flight CrewA : 2

Resolatory Action.Flight Crew : Exited Adverse Environment

Resolatory Action.Flight Crew : Regained Aircraft Control

## **Supplementary**

Problem Areas : Aircraft

Problem Areas : Environmental Factor

Problem Areas : Weather

Narrative :

ENRTE SNA-DTW, ON CLBOUT OVER SOUTHERN CALIFORNIA AT FL365 FOR FL370, ENCOUNTERED 'WASHBOARD' TYPE TURB AND ACFT BEGAN UNCOMMANDED L ROLL AUTOPLT COULD NOT LEVEL WINGS OR STOP NOSE PITCH-UP. ACFT THEN STARTED ROLLING R AT WHICH POINT FO DISCONNECTED AUTOPLT AND COMMANDED L WING DOWN WITH SIDE-STICK CTLR WITH NO RESULT. CTL WAS REGAINED WHEN WE DEPARTED 'WASHBOARD' TURB. WE HAD BEEN FOLLOWING TCASII OBSERVED TFC 9 MI AHEAD OF US ALONG OUR RTE. ATC CONFIRMED THAT PRECEDING ACFT WAS AT FL370 AND A B757 TYPE.

Synopsis :

A320 ENCOUNTERS ROLL RATE IN WAKE TURB OF B757 THAT IS TOO GREAT FOR AUTOFLT OR MANUAL CTL TO COUNTERACT.

**ACN: 446627**

## **Time**

Date : 199908

Day : Mon

Local Time Of Day : 1801 To 2400

## **Place**

State Reference : PA

Altitude.MSL.Single Value : 23000

## **Environment**

Flight Conditions : VMC

## **Person / 1**

Function.Flight Crew : First Officer

ASRS Report : 446627

## **Person / 2**

Function.Oversight : PIC

Function.Flight Crew : Captain

## **Person / 3**

Function.Controller : Radar

## **Person / 4**

Function.Oversight : PIC

Function.Flight Crew : Captain

## **Events**

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Other Anomaly : Loss Of Aircraft Control

Resolatory Action.Flight Crew : Regained Aircraft Control

Resolatory Action.Controller : Issued New Clearance

## **Supplementary**

Problem Areas : Environmental Factor

Problem Areas : Weather

Narrative :

ATC FACILITY: ZOB. LOCATION: APPROX 45 NM W OF HARRISBURG, PA. DURING DSCNT THROUGH FL230, A SOMEWHAT VIOLENT ROLL L, THEN R, WITH MODERATE BUFFET WAS ENCOUNTERED WITHOUT ANY WARNING. SEATBELT SIGN WAS TURNED ON IMMEDIATELY AND A HDG CHANGE TO THE S WAS REQUESTED FROM CTR TO EVADE THE CONTRAIL OF ACFT 12 NM AHEAD OF US PER TCASII. UPON REQUEST FOR HDG CHANGE AND RPT OF BRIEF TURB ENCOUNTER TO ZOB, THE CTLR WAS INCREDULOUS AS TO THE CAUSE SINCE HE SAW THAT THE NOW IDENTED B757 WAS 1500 FT BELOW OUR ALT. ON FIRST NOTING THE ACFT AND TCASII, CAPT ASKED IF THAT PLANE WAS ALSO GOING TO PHL. ZOB SAID THAT IT WAS, AND CAPT REQUESTED ADDITIONAL IN TRAIL SPACING AT THAT TIME. CAPT ACTING AS PNF.

Synopsis :

ACR ENCOUNTERS WAKE TURB 12 MI BEHIND B757 DURING DSCNT.

## Time

Date : 199909

Day : Thu

Local Time Of Day : 1201 To 1800

## Place

State Reference : CA

Altitude.MSL.Single Value : 24000

## Environment

Flight Conditions : VMC

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 7500

Experience.Flight Time.Last 90 Days : 275

Experience.Flight Time.Type : 1890

ASRS Report : 447882

## Person / 2

Function.Flight Crew : First Officer

## Person / 3

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 4

Function.Controller : Radar

## Person / 6

Function.Observation : Passenger

## Events

Anomaly.Altitude Deviation : Excursion From Assigned Altitude

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Other Anomaly : Loss Of Aircraft Control

Independent Detector.Other.Flight CrewA : 1

Resolatory Action.Flight Crew : Declared Emergency

Resolatory Action.Flight Crew : Regained Aircraft Control

Resolatory Action.Flight Crew : Returned To Assigned Altitude

Resolatory Action.Controller : Issued New Clearance

Consequence.Other : Physical Injury

## Supplementary

Problem Areas : Airspace Structure

Problem Areas : ATC Human Performance

Problem Areas : Environmental Factor

Narrative :

SUSPECTED WAKE TURB ENCOUNTER BEHIND MD11. CRUISE FLT AT FL240, 310 KIAS IN THE VICINITY OF RZS VOR. SKY WAS VMC, SMOOTH AND CLR. AUTOPLT AND AUTOTHROTTLES WERE ON. DEPARTED LAX ON A FLT TO SFO (LAX VTU2 RZS J501 BSR BSR2 SFO). AFTER FLYING SEVERAL VECTOR HDGS DURING THE DEP, WE WERE CLRED DIRECT TO RZS WITH A CLB TO FL240, OUR FINAL CRUISE ALT FOR THE FLT. WE HAD BEEN LEVEL AT OUR CRUISE ALT FOR A FEW MINS WHEN WE ENCOUNTERED A L ROLL WITH A PITCH DOWN ATTITUDE. I DISCONNECTED THE AUTOPLT, ROLLED THE ACFT LEVEL, AND REGAINED THE 200 FT ALT LOSS. I THEN RE-ENGAGED THE AUTOPLT. I CALLED THE 'A' FLT ATTENDANT TO DETERMINE IF ANY INJURIES HAD OCCURRED. THE 'A' FLT ATTENDANT STATED THAT THE 2 AFT FLT ATTENDANTS AND 1 PAX HAD BEEN INJURED. I ASKED THE CTLR IF THERE WERE ANY ACFT NEAR US. HE STATED THAT AN MD11 HAD CLBED THROUGH OUR ALT AHEAD OF US. HE WAS APPROX 10-12 MI AHEAD OF US. THE FO CONTACTED DISPATCH AND REQUESTED MEDICAL AID UPON OUR ARR. I TOLD ATC WE HAD A MEDICAL EMER AND REQUESTED A LIFEGUARD CALL SIGN. WE WERE CLRED DIRECT SFO. WE LANDED ON RWY 28L (VISUAL) AND THEN PROCEEDED DIRECTLY TO THE GATE. PARAMEDICS WERE WAITING AND BOARDED THE ACFT ASAP.

Synopsis :

B737 ENCOUNTERS WAKE TURB. PAX AND CREW INJURED.



**Time**

Date : 199909  
Day : Thu  
Local Time Of Day : 1201 To 1800

**Place**

State Reference : CA  
Altitude.AGL.Single Value : 24000

**Environment**

Flight Conditions : VMC

**Component / 1**

Aircraft Component : Pressurization System  
Aircraft Reference : X  
Problem : Malfunctioning

**Person / 1**

Function.Flight Crew : First Officer  
Experience.Flight Time.Total : 4000  
Experience.Flight Time.Last 90 Days : 260  
Experience.Flight Time.Type : 1800  
ASRS Report : 448497

**Person / 2**

Function.Oversight : PIC  
Function.Flight Crew : Captain

**Person / 3**

Function.Oversight : PIC  
Function.Flight Crew : Captain

**Person / 4**

Function.Controller : Radar

**Events**

Anomaly.Altitude Deviation : Excursion From Assigned Altitude  
Anomaly.Inflight Encounter : Wake Turbulence  
Anomaly.Other Anomaly : Loss Of Aircraft Control  
Independent Detector.Other.Flight CrewA : 1  
Independent Detector.Other.Flight CrewB : 2  
Resolatory Action.Flight Crew : Declared Emergency  
Resolatory Action.Flight Crew : Landed In Emergency Condition  
Resolatory Action.Flight Crew : Overrode Automation  
Resolatory Action.Flight Crew : Regained Aircraft Control  
Resolatory Action.Flight Crew : Returned To Assigned Altitude  
Consequence.Other : Company Review  
Consequence.Other : Physical Injury

**Supplementary**

Problem Areas : ATC Human Performance  
Problem Areas : Environmental Factor

Narrative :

IN FLT CRUISE FROM LAX-SFO. FLT LEVEL AT FL240 APPROX 310 KIAS. WE WERE RESTR TO FL240 DUE TO SINGLE PACK OP. TKOF AND CLB TO ALT WERE NORMAL. I HAD JUST TURNED OFF THE FASTEN SEATBELT SIGN AND MADE AN ANNOUNCEMENT. WHEN IN THE VICINITY OF RZS, WITH THE AUTOPLT ON, WE STARTED TO ENCOUNTER A LIGHT BUFFET. THE ACFT NOSE THEN PITCHED UP SLIGHTLY AND ROLLED TO THE L AND THEN PITCHED DOWN. THE CAPT (PF) IMMEDIATELY DISENGAGED THE AUTOPLT, ROLLED WINGS LEVEL, AND STARTED A GRADUAL CLB BACK TO ALT. IT FELT AS IF WE ROLLED ABOUT 45 DEGS AND WE LOST 200-300 FT OF ALT. ONCE THE ACFT WAS BACK IN STABLE FLT, THE CAPT ASKED ATC WHO WAS AHEAD OF US AND HOW WERE THE RIDES? ATC SAID THERE WAS A HVY MD11 ABOUT 10 MI AHEAD WHO HAD CLBED UP THROUGH OUR ALT. AT THIS POINT WE CALLED BACK TO THE FLT ATTENDANTS. THE CHIEF FLT ATTENDANT SAID THE OTHER 2 FLT ATTENDANTS WERE HURT, AND THERE WERE MULTIPLE INJURIES TO PAX. WE GOT AS MUCH INFO FROM THE FLT ATTENDANT AS POSSIBLE AND DECLARED OURSELVES A LIFEGUARD/EMER ACFT WITH ATC. AT THIS POINT WE WERE ABOUT 1/2 WAY TO SFO AND WITH THE CONCURRENCE OF 2 DOCTORS ON BOARD, WHO WERE ASSISTING, WE DECIDED TO CONTINUE ON TO SFO. THE DSCNT AND LNDG WERE UNEVENTFUL. WE WENT TO THE GATE WHERE THE ACFT WAS MET BY PARAMEDICS AND ARPT OFFICIALS. PERFORMANCE CONSIDERATIONS: DUE TO THE FACT THAT 2 OUT OF THE 3 FLT ATTENDANTS WERE HURT, IT WAS HARD TO GET TIMELY COMPLETE INFO IN THE FLT STATION AS TO WHAT WAS HAPPENING IN THE BACK. THIS SLOWED UP THE DECISION MAKING PROGRESS.

Synopsis :

A TWIN ENG ACR IS SUBJECTED TO THE WAKE TURB OF A PRECEDING, CLBING MD11, 10 MI AHEAD. NO ATC ADVISORY, 2 FLT ATTENDANTS AND SOME PAX INJURED ENRTE TO SFO, CA.

**Time**

Date : 199909  
Day : Wed  
Local Time Of Day : 0601 To 1200

**Place**

Locale Reference.Airport : DEN.Airport  
State Reference : CO  
Altitude.AGL.Bounds Lower : 1000  
Altitude.AGL.Bounds Upper : 1500

**Environment**

Flight Conditions : VMC

**Aircraft / 1**

Controlling Facilities.Tower : DIA.Tower  
Make Model : B737-500

**Person / 1**

Function.Oversight : PIC  
Function.Flight Crew : Captain  
Experience.Flight Time.Total : 15000  
Experience.Flight Time.Last 90 Days : 100  
Experience.Flight Time.Type : 4600  
ASRS Report : 448871

**Person / 2**

Function.Flight Crew : First Officer

**Person / 3**

Function.Controller : Local  
Function.Controller : Radar

**Events**

Anomaly.Other Spatial Deviation : Track Or Heading Deviation  
Anomaly.Inflight Encounter : Wake Turbulence  
Anomaly.Other Anomaly : Loss Of Aircraft Control  
Independent Detector.Other.Flight CrewA : 1  
Independent Detector.Other.Flight CrewB : 2  
Resolatory Action.Flight Crew : Executed Go Around  
Resolatory Action.Flight Crew : Regained Aircraft Control  
Resolatory Action.Controller : Issued New Clearance  
Resolatory Action.Other : Landed Uneventfully  
Consequence.Other : Maintenance Action

**Supplementary**

Problem Areas : Environmental Factor  
Problem Areas : Flight Crew Human Performance

Narrative :

FO FLYING. UNCOMMANDED RUDDER DEFLECTION. VISUAL APCH TO RWY 35L AT DEN. 3-4 MI BEHIND A B737 WE ENCOUNTERED WHAT SEEMED TO BE HVY WAKE TURB. THEN SMOOTH AIR FOR A FEW SECONDS THE ACFT BEGAN TO ROLL R. THE FO CORRECTED WITH L AILERON. ACFT BEGAN TO RESPOND THEN ROLLED FURTHER R APPROX 30 DEGS AND NOSE DOWN. THE FO APPEARED TO HAVE FULL L AILERON AND ACFT WAS NOT RESPONDING FOR 2-3 SECONDS. I CALLED FOR A GAR. ACFT RESPONDED. WE LANDED UNEVENTFULLY ON RWY 35R. FO STATED THAT DURING THE SECOND ROLL TO THE R, THE RUDDER DEFLECTED 1/4 - 1/2 OF ITS FULL TRAVEL UNCOMMANDED. CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING INFO: THE RPTR STATES THAT AS PNF, HE FIRST ASSUMED THAT THIS INCIDENT WAS DUE TO WAKE TURB, BUT THE FACT THAT THE TFC BEING FOLLOWED WAS ANOTHER B737 ALONG WITH THE FO REACTIONS OF FULL THROW ON THE AILERONS CAUSED HIM TO DECIDE TO RPT AS A POSSIBLE RUDDER PROB. AS A RESULT, THE FLT RECORDER TAPES WERE REMOVED. BOEING PERSONNEL, ACR PERSONNEL, PLT GROUP AND MAINT PERSONNEL WERE INVOLVED. ALL PARTIES, INCLUDING THE RPTR, NOW AGREE THAT THE CAUSE WAS ONE OF WAKE TURB FROM THE RPTED TFC, A B737, 3-4 MI AHEAD OF THE RPTR ACFT.

Synopsis :

B737-500 RPTS POSSIBLE UNCOMMANDED RUDDER DEPLOYMENT JUST PASSING OUTER MARKER AT DIA.

**Time**

Date : 199909

Day : Sun

Local Time Of Day : 1801 To 2400

**Place**

State Reference : CA

Altitude.AGL.Single Value : 400

**Environment**

Flight Conditions : VMC

**Person / 1**

Function.Flight Crew : First Officer

Experience.Flight Time.Total : 4400

Experience.Flight Time.Last 90 Days : 250

Experience.Flight Time.Type : 2900

ASRS Report : 449453

**Person / 2**

Function.Oversight : PIC

Function.Flight Crew : Captain

**Person / 3**

Function.Oversight : PIC

Function.Flight Crew : Captain

**Person / 4**

Function.Controller : Local

**Events**

Anomaly.Other Spatial Deviation : Track Or Heading Deviation

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Non Adherence : FAR

Anomaly.Non Adherence : Published Procedure

Independent Detector.Other.Flight CrewA : 1

Independent Detector.Other.Flight CrewB : 2

Resolatory Action.Flight Crew : Regained Aircraft Control

Resolatory Action.Flight Crew : Took Evasive Action

**Supplementary**

Problem Areas : Airport

Problem Areas : ATC Human Performance

Problem Areas : FAA

Narrative :

OUR FLT HAD BEEN CLRED FOR TKOF BEHIND A B727 WHICH HAD JUST BEGUN ITS INITIAL CLBOUT. ATC WAS NOT CONCERNED BECAUSE THE B727 IS NOT CONSIDERED 'HVY.' WE ROLLED SLOWLY INTO POS ON RWY 24L IN ORDER TO CREATE SPACE BTWN THE B727 AND OURSELVES. THE TWR CTLR FORCEFULLY TOLD US TO ROLL 'IMMEDIATELY.' THERE WAS NO TFC ON FINAL SO I FIGURED THAT HE WAS IN A HURRY TO LAUNCH THE ACFT BEHIND US. WE FELT THAT SUFFICIENT DISTANCE HAD BEEN CREATED AND WE PROCEEDED WITH A STATIC TKOF. OUR ACFT WAS VERY CLOSE TO ITS MAX TKOF WT. GENERALLY AN E120 CAN CLB STEEPER THAN A B727 BUT TODAY WE WERE ABOUT MATCHED AT 400 FT AGL. WE ENCOUNTERED THE WAKE FROM THE B727. WE IMMEDIATELY TURNED ABOUT 20 DEGS R TO EXIT THE WAKE BECAUSE IT WAS THE SAFEST COURSE OF ACTION. THERE WAS NO TFC WHICH WAS IN CONFLICT WITH US. THE TWR WAS ADVISED OF OUR TURN AND THE WAKE ISSUE WAS EXPLAINED. THE CTLR THEN PROCEEDED TO CHASTISE FOR MAKING AN 'UNAPPROVED TURN.' OUR HDG DEV LASTED ABOUT 8 SECONDS. THERE WAS NO FURTHER INCIDENT.

Synopsis :

E120 CREW ENCOUNTERED WAKE TURB FROM A B727 IMMEDIATELY AHEAD.

## Time

Date : 199909

Day : Thu

Local Time Of Day : 1801 To 2400

## Place

Locale Reference.Airport : LAX.Airport

State Reference : CA

Altitude.MSL.Bound Lower : 1500

Altitude.MSL.Bound Upper : 2000

## Environment

Flight Conditions : IMC

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 12500

Experience.Flight Time.Last 90 Days : 150

Experience.Flight Time.Type : 1700

ASRS Report : 449821

## Person / 2

Function.Flight Crew : First Officer

## Person / 3

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 4

Function.Controller : Approach

## Person / 5

Function.Controller : Local

## Events

Anomaly.Inflight Encounter : Wake Turbulence

Independent Detector.Other.Flight CrewA : 1

Resolatory Action.Flight Crew : Regained Aircraft Control

Resolatory Action.Other : Increase Spacing

## Supplementary

Problem Areas : Airspace Structure

Problem Areas : Environmental Factor

Narrative :

DURING ILS APCH RWY 25L TO LAX IN IMC ABOUT 4 MI IN TRAIL OF A B727, WE ENCOUNTERED 3 SUCCESSIVE WAKE TURB ENCOUNTERS WITHIN A TIME SPAN OF 30 SECONDS. THE FIRST ENCOUNTER PUT US IN A 20 DEG BANK WITH OPPOSITE CTL INPUT BEING APPLIED. WE REALIZED WE WERE IN SOMEONE'S WAKE AND FLEW HIGH ON GS. EVEN THEN WE RECEIVED 2 ADDITIONAL ROLLS WHICH WERE QUICKLY CORRECTED. WE THEN ADVISED BOTH LCL AND FINAL MONITOR CTLR THAT WE WERE SLOWING FURTHER TO INCREASE SPACING. THESE ENCOUNTERS OCCURRED AT ALTS FROM 2000 FT TO 1500 FT MSL. SUBSEQUENT LNDG UNEVENTFUL.

Synopsis :

B737 ENCOUNTERS WAKE TURB FROM B727 ON ILS APCH. SLOWS TO INCREASE SPACING.



## Time

Date : 199909

Day : Thu

Local Time Of Day : 1201 To 1800

## Place

State Reference : MI

Altitude.MSL.Bound Lower : 9800

Altitude.MSL.Bound Upper : 10000

## Component / 1

Aircraft Component : Autopilot

Aircraft Reference : X

Problem : Malfunctioning

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

ASRS Report : 450099

## Person / 2

Function.Flight Crew : First Officer

ASRS Report : 450100

## Person / 3

Function.Controller : Radar

## Events

Anomaly.Aircraft Equipment Problem : Less Severe

Anomaly.Altitude Deviation : Excursion From Assigned Altitude

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Non Adherence : Clearance

Anomaly.Other Anomaly : Loss Of Aircraft Control

Independent Detector.Other.Flight CrewA : 1

Independent Detector.Other.Flight CrewB : 2

Resolatory Action.Flight Crew : Overcame Equipment Problem

Resolatory Action.Flight Crew : Regained Aircraft Control

Resolatory Action.Flight Crew : Returned To Assigned Altitude

## Supplementary

Problem Areas : Aircraft

Problem Areas : Airspace Structure

Problem Areas : Environmental Factor

Narrative :

OVER PIVOT INTXN, FOLLOWING TFC AHEAD 5 MI, ENCOUNTERED THEIR WAKE TURB. AUTOPLT CLICKED OFF AND ACFT DSNDDED 200 FT TO ABOUT 9800 FT. COPLT RETURNED TO 10000 FT.

Synopsis :

AN S80 CREW EXPERIENCES A SMALL ALTDEV WHEN THEIR AUTOPLT IS KICKED OFF BY A WAKE TURB ENCOUNTER FROM A PRECEDING ACFT NE OR ORD, IL.

**Time**

Date : 199909  
Day : Sat  
Local Time Of Day : 1201 To 1800

**Place**

State Reference : WV  
Altitude.MSL.Single Value : 33000

**Environment**

Flight Conditions : VMC

**Person / 1**

Function.Oversight : PIC  
Function.Flight Crew : Captain  
Experience.Flight Time.Total : 8000  
Experience.Flight Time.Last 90 Days : 150  
Experience.Flight Time.Type : 1000  
ASRS Report : 450126

**Person / 2**

Function.Flight Crew : First Officer

**Person / 3**

Function.Controller : Radar

**Person / 4**

Function.Oversight : PIC  
Function.Flight Crew : Captain

**Person / 5**

Function.Oversight : PIC  
Function.Flight Crew : Captain

**Events**

Anomaly.Conflict : Airborne Less Severe  
Anomaly.Inflight Encounter : Wake Turbulence  
Anomaly.Non Adherence : FAR  
Anomaly.Non Adherence : Published Procedure  
Anomaly.Non Adherence : Required Legal Separation  
Anomaly.Other Anomaly : Loss Of Aircraft Control  
Independent Detector.Other.Flight CrewA : 1  
Independent Detector.Other.Flight CrewB : 2  
Resolutory Action.Flight Crew : Regained Aircraft Control  
Resolutory Action.Flight Crew : Took Evasive Action  
Consequence.Other : Emotional Trauma

**Supplementary**

Problem Areas : Aircraft  
Problem Areas : ATC Human Performance  
Problem Areas : Environmental Factor

Narrative :

ACFT DEPARTED DCA ON 3 PAX FLT TO IXD (OLATHE, KS). ZDC VECTORED ACFT TO JOIN J134 AND ASSIGNED ALT FL330. CTR ADVISED THAT WE WERE IN TRAIL OF A COMPANY A B777, ALSO AT FL330. CREW OBSERVED B777 AT 12 O'CLOCK POS, WELL AHEAD. SUBSEQUENT ZDC XMISSION WAS INTERPRETED BY CREW TO EXPECT CLB TO FL350 BEFORE CLB CLRNC WOULD BE PROVIDED TO B777. AFTER A FEW MINS, B777 WAS OBSERVED TO BE AT 12 O'CLOCK POS, CLBING. AT THIS TIME, ZDC ADVISED OF XING COMPANY B757, L TO R, AT FL350. THAT ACFT WAS ALSO SIGHTED ON CONSTANT BEARING/DECREASING RANGE. UP TO THIS TIME, FLT WAS IN SMOOTH AIR. HOWEVER, FL WINDS WERE JUST 7-10 KTS FROM OUR 7-8 O'CLOCK POS. PIC SUSPECTED POSSIBLE ENCOUNTER WITH B777 WAKE TURB WAS IMMINENT, BUT TURN UPWIND WOULD PLACE ACFT 2000 FT BELOW CONVERGING B757 WAKE. COURSE WAS MAINTAINED UNTIL ACFT WAS APPROX 1 MI B757, THEN, A SHALLOW L TURN COMMENCED, MODERATE TURB ENCOUNTERED, FOLLOWED BY UNCOMMANDED L ROLL TO APPROX 30 DEG ANGLE OF BANK. ENCOUNTER LASTED APPROX 5 SECONDS BEFORE LEVEL, SMOOTH FLT CONDITIONS REGAINED. (AUTOPLT DID NOT DISCONNECT.) CREW RPTED ENCOUNTER TO ZDC AND MAINTAINED OFFSET 2 NM S OF AIRWAY UNTIL B777 COURSE DIVERGED OVER ZTL ADVISED THAT WE WERE 12 NM IN-TRAIL OF B777.

Synopsis :

A CPR HAWKER CAPT, FLYING AT FL330 ENCOUNTERED WAKE TURB FROM A B757 2000 FT ABOVE AND A B777 AHEAD AND CLBING.

**Time**

Date : 199909  
Day : Sat  
Local Time Of Day : 0601 To 1200

**Place**

State Reference : FO  
Altitude.MSL.Bound Lower : 2000  
Altitude.MSL.Bound Upper : 2500

**Environment**

Flight Conditions : IMC

**Person / 1**

Function.Oversight : PIC  
Function.Flight Crew : Captain  
Experience.Flight Time.Total : 14500  
Experience.Flight Time.Last 90 Days : 180  
Experience.Flight Time.Type : 250  
ASRS Report : 450480

**Person / 2**

Function.Flight Crew : First Officer  
Experience.Flight Time.Total : 3200  
Experience.Flight Time.Last 90 Days : 100  
Experience.Flight Time.Type : 150  
ASRS Report : 450704

**Person / 3**

Function.Flight Crew : Second Officer

**Person / 4**

Function.Controller : Radar

**Events**

Anomaly.Inflight Encounter : Turbulence  
Anomaly.Inflight Encounter : Wake Turbulence  
Anomaly.Inflight Encounter : Weather  
Anomaly.Other Anomaly : Speed Deviation  
Anomaly.Other Anomaly : Unstabilized Approach  
Independent Detector.Other.ControllerA : 4  
Independent Detector.Other.Flight CrewA : 1  
Independent Detector.Other.Flight CrewB : 2  
Resolutory Action.Flight Crew : Executed Missed Approach  
Resolutory Action.Controller : Issued Advisory  
Resolutory Action.Controller : Issued New Clearance  
Resolutory Action.Controller : Provided Flight Assist

**Supplementary**

Problem Areas : Environmental Factor  
Problem Areas : Weather

Narrative :

ON A COUPLED APCH TO RWY 25L IN HONG KONG DURING TROPICAL STORM. MY FIRST TIME TO THIS ARPT AND AFTER FLYING 8 HRS FROM OMFJ. ABOUT 8-10 MI, WE RPTD TO APCH THAT WE WERE IN MODERATE TO SEVERE TURB (WOULD HAVE LOVED AN OPTION OF DISCONTINUING THE APCH). ABOUT 6-8 MI OUT, LEAVING 2500 FT, THE AUTOPLT WAS OVERCTLING, STILL SEVERE TURB, AND FOR SAFETY REASONS I DISCONNECTED THE AUTOPLT AND STOPPED THE DSCNT AND NOTIFIED APCH THAT I WANTED VECTORS OUT OF THERE. I HAD TERRAIN TO MY L AND FIGURED THE SEVERE WX WAS TAKING ME IN THAT DIRECTION. RELUCTANTLY GAVE ME A HDG OF 270 DEGS. BUT THAT HDG SEEMED NOT GOOD ENOUGH, SO I TOLD THEM I WAS CONTINUING TO CLB ABOVE THE INITIAL MISSED APCH ALT OF 2000 FT UP TO 3500 FT, THEN THEY CLRED ME TO 4000 FT. NO WARNING LIKE GPWS OR WINDSHEAR BY THE ACFT. WE WERE VECTORED OUT AND THEN LATER TRIED ANOTHER APCH. LANDED OK, BUT WAS INFORMED BY TWR TO PHONE THEM. I DID, AND THEY EXPRESSED THEY DID NOT LIKE ME DOING THE PUBLISHED MISSED APCH. I FIGURED THAT MY SIT WARRANTED DIFFERENT MEASURES TO KEEP A BAD SIT FROM GETTING WORSE.

Synopsis :

B747-100 ABANDONS A COUPLED APCH INTO HONG KONG WITH TURB AND WIND GUSTS.

**Time**

Date : 199910

Day : Sun

Local Time Of Day : 0601 To 1200

**Place**

Locale Reference.Airport : DFW.Airport

State Reference : TX

Altitude.MSL.Single Value : 3000

**Aircraft / 1**

Controlling Facilities.TRACON : D10.TRACON

Make Model : MD-80 Super 80

**Person / 1**

Function.Oversight : PIC

Function.Flight Crew : Captain

ASRS Report : 450778

**Person / 2**

Function.Flight Crew : First Officer

**Person / 3**

Function.Controller : Approach

Function.Controller : Radar

**Events**

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Non Adherence : FAR

Independent Detector.Aircraft Equipment : TCAS

Independent Detector.ATC Equipment.Other ATC Equipment : 931

Independent Detector.Other.ControllerA : 3

Independent Detector.Other.Flight CrewA : 953

Independent Detector.Other.Flight CrewB : 961

**Situations**

Aircraft.Make Model.Value : 583.41

**Supplementary**

Problem Areas : ATC Facility

Problem Areas : ATC Human Performance

Problem Areas : Environmental Factor

Narrative :

12 MI FINAL ON RWY 18R, DFW APCH. BEFORE TURNING FINAL, WE SPOTTED INBOUND TFC AHEAD AT SAME ALT. I QUERIED TO SEE IF THAT TFC WAS A HVY JET. RESPONSE WAS IT WAS A B757. NOTING SPACING TO BE ONLY 3 MI, I BECAME CONCERNED. AFTER TURNING FINAL, WE FLEW INTO THE WAKE TURB. ORDERED FO TO SLOW TO APCH SPD AND TRIED TO COMMUNICATE TO APCH THAT WE WERE DOING SO. AFTER SEVERAL ATTEMPTS TO GET A RADIO CALL IN, I WAS SUCCESSFUL TELLING APCH WE HAD SLOWED BELOW THE ASSIGNED SPD. APCH IMMEDIATELY BROKE US OUT. WHAT CONCERNS ME ABOUT THIS EVENT IS THAT APCH CTL IS STILL CONSIDERING B757'S AS NOT REQUIRING MORE SPACING. I DISAGREE AND WOULD LIKE TO SEE THIS CHANGED BEFORE SOMEONE GOES UPSIDE DOWN ON FINAL. ON THE GND I CAN CTL MY SPACING FROM DEPARTING B757'S, BUT WHILE AIRBORNE I HAVE NO CTL. LASTLY, THERE IS TOO MUCH COM TFC ON APCH FREQS FOR TIMELY XMISSIONS OF ANYTHING OTHER THAN NORMAL COM.

Synopsis :

S80 FLC VECTORED WITHOUT PROPER SEPARATION AT DFW IS VECTORED OFF THE APCH AFTER CREW SLOWS FOR SAFETY WHILE ENCOUNTERING WAKE TURB.



## Time

Date : 199910

Day : Tue

Local Time Of Day : 1201 To 1800

## Place

Locale Reference.Airport : MIA.Airport

State Reference : FL

Altitude.AGL.Single Value : 0

## Environment

Flight Conditions : VMC

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

ASRS Report : 450986

## Person / 2

Function.Flight Crew : First Officer

## Person / 3

Function.Flight Crew : Second Officer

## Person / 4

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 6

Function.Controller : Local

## Person / 5

Function.Oversight : PIC

Function.Flight Crew : Captain

## Events

Anomaly.Inflight Encounter : Turbulence

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Non Adherence : FAR

Anomaly.Non Adherence : Published Procedure

Independent Detector.Other.Flight CrewA : 1

Resolutory Action.Flight Crew : Regained Aircraft Control

Resolutory Action.None Taken : Insufficient Time

## Situations

Aircraft.Make Model.Value : 148.60

## Supplementary

Problem Areas : ATC Human Performance

Narrative :

LOC: MIA. B757 ON SHORT FINAL 100 FT OFF GROUND ROLLED 25 DEG L AND THEN 25 DEG R AFTER ENCOUNTERING WAKE TURB WHILE LNDG ON RWY 12. A DC10 HAD JUST DEPARTED RWY 9 AND NO ADVISORY WAS GIVEN TO THE B757 FLT AND NO SEPARATION PROVIDED. CTLR ACKNOWLEDGED MISTAKE BUT THIS HAS HAPPENED MANY TIMES AT MIA AND NO ACTION SEEMS TO PREVENT IT FROM HAPPENING AGAIN. MAYBE AN INCIDENT OR ACCIDENT WILL CORRECT THIS SITUATION. I OBSERVED ALL THIS WHILE AWAITING TKOF. HAD THE ACFT HIT THE GROUND HE COULD HAVE WIPED OUT ALL THE ACFT AWAITING TKOF FOR RWY 9 AND RWY 12 AT MIA.

Synopsis :

B727 READY FOR TKOF AT MIA OBSERVES WAKE TURB EVENT CAUSED BY ATC CTLR.

## Time

Date : 199910

Day : Sat

Local Time Of Day : 0601 To 1200

## Place

Locale Reference.Airport : SEA.Airport

State Reference : WA

Altitude.MSL.Single Value : 2700

## Environment

Flight Conditions : VMC

## Aircraft / 1

Controlling Facilities.TRACON : S46.TRACON

Make Model : B737-400

## Aircraft / 2

Controlling Facilities.TRACON : S46.TRACON

Make Model : B737 Undifferentiated or Other Model

## Component / 1

Aircraft Component : Rudder Control System

Aircraft Reference : X

Problem : Malfunctioning

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 13950

Experience.Flight Time.Last 90 Days : 250

Experience.Flight Time.Type : 5750

ASRS Report : 451190

## Person / 2

Function.Flight Crew : First Officer

## Person / 3

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 4

Function.Controller : Approach

## Person / 6

Function.Oversight : PIC

Function.Flight Crew : Captain

## Events

Anomaly.Aircraft Equipment Problem : Unwanted Situation

Anomaly.Inflight Encounter : Turbulence

Anomaly.Inflight Encounter : Wake Turbulence

Independent Detector.Other.Flight CrewA : 1

Independent Detector.Other.Flight CrewB : 2

Resolatory Action.None Taken : Anomaly Accepted

## Situations

Aircraft.Make Model.Value : 148.44

Aircraft.Aircraft Component.Value : 27.21

## Supplementary

Problem Areas : Aircraft

Problem Areas : Company

Problem Areas : FAA  
Problem Areas : Weather

Narrative :

ACFT DISPATCHED WITH MEL'ED YAW DAMPER INOP (NO RESTRS) LAX-SEA. FILED FOR FL350, WE STAYED AT FL310 (CAPT'S DECISION). WE WERE THE ONLY ACFT THAT RPTED LIGHT TURB. WE HAD AN UNCOMFORTABLE RIDE -- DUTCH ROLL WITH ACFT NOSE MOVING R-L. ENDED UP AT FL280 FOR BETTER CTL. INTO SEA INSIDE NEEAL TO RWY 34R FLAPS 10 DEGS, 170 KTS AND 2700 FT MSL, AT 4 MI IN TRAIL OF COMPANY B737, ENCOUNTERED WAKE TURB. R WING STARTED TO DROP. PUT IN COUNTER AILERON, ADDED PWR, STOPPED DSCNT. WENT AT 1 DOT HIGH ON GS (ACFT STILL ROLLING TO R, NOW AT 10-15 DEGS R WING DOWN). ADDED MORE PWR, MORE L AILERON, PLUS A VERY SMALL (JUST A TOUCH) OF L RUDDER -- SPD NOW 190 KTS, R WING AT 25-30 DEGS DOWN BEFORE ACFT RESPONDED! ASKED FOR RWY 34L (DUE TO CLOSURE, 190 KTS). I WOULD HAVE HOPED FOR AN IMMEDIATE RESPONSE FROM ACFT! TALKED TO MAINT ON THE GND. ALL PROCS WERE ACCOMPLISHED BY MAINT FOR YAW DAMPER INOP. PASSED ON INFO TO OUTBOUND CREW. GUESS I JUST HIT WINGTIP VORTICES/WAKE TURB PERFECTLY. HIT HIS L WING TURB, FOLLOWED BY HIS R WING TURB. WX WAS CLR, SURFACE WIND AT 350 DEGS 9 KTS AT XA15.

Synopsis :

B737 CREW FLEW WITH AN MEL'ED INOP YAW DAMPER.

## Time

Date : 199910

Day : Sat

Local Time Of Day : 0601 To 1200

## Place

Locale Reference.Airport : MIA.Airport

State Reference : FL

Altitude.AGL.Single Value : 60

## Environment

Flight Conditions : VMC

## Person / 1

Function.Flight Crew : First Officer

ASRS Report : 451565

## Person / 2

Function.Oversight : PIC

Function.Flight Crew : Captain

ASRS Report : 451566

## Person / 3

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 4

Function.Controller : Local

## Events

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Other Anomaly : Loss Of Aircraft Control

Independent Detector.Other.Flight CrewA : 1

Resolatory Action.Flight Crew : Regained Aircraft Control

## Supplementary

Problem Areas : Airspace Structure

Problem Areas : Environmental Factor

Problem Areas : Flight Crew Human Performance

Narrative :

I WAS FLYING THE APCH TO RWY 12 AT MIA IN VISUAL CONDITIONS. ACFT WERE LNDG ON RWYS 9, 9R AND 12 WITH DEPS ON RWYS 9L AND 9R. THE WIND ON THE ATIS WAS RPTED AT 090 DEGS AT 12 KTS. THERE WERE SMALL TWRING CUMULUS CLOUDS IN THE VICINITY. THE ACFT WAS IN THE LNDG CONFIG, IN THE SLOT AND CLRED TO LAND. THERE WAS LIGHT CHOP DURING THE APCH. REF SPD WAS 128 KTS AND OUR SPD DURING THE APCH WAS 134 KTS. AT 500 FT THE ACFT WAS ON SPD AND SINK OF 600 FPM AT 100 FT AGL ALSO IN THE SLOT. AT APPROX 60 FT AGL THE ACFT MADE AN ABRUPT UNCOMMANDED ROLL TO THE R TO ABOUT 20 DEGS R WING DOWN I CORRECTED TO THE L TO STOP THE ROLL. THE AILERONS FELT MARGINAL AND UNRESPONSIVE AND AT THE SAME TIME I ADDED PWR TO ARREST THE SINK. A SERIES OF CORRECTIVE ROLLS WAS NEEDED TO LEVEL THE WINGS. WE TOUCHED DOWN ON THE R MAIN WHEELS FIRST. THE ROLLOUT WAS NORMAL. I SUSPECT THAT WE ENCOUNTERED WAKE TURB THAT DRIFTED OVER FROM RWY 9L. THE ACFT IN FRONT OF US ON THE RWY 12 APCH WAS A B727 MORE THAN 5 MI AHEAD.

Synopsis :

FO OF A B757 TEMPORARILY LOST ACFT CTL DURING FINAL APCH AT 60 FT ABOVE THE GND BELIEVED DUE TO WAKE TURB OPS FROM NEAR BY PARALLEL RWYS, OR A B727 WHICH HAD PREVIOUSLY LANDED, AND WHICH WAS 5 MI AHEAD OF THEM ON FINAL APCH.

## Time

Date : 199910

Day : Fri

Local Time Of Day : 0601 To 1200

## Place

Locale Reference.Airport : SFO.Airport

State Reference : CA

Altitude.AGL.Bound Lower : 1000

Altitude.AGL.Bound Upper : 1300

## Environment

Flight Conditions : VMC

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 5000

Experience.Flight Time.Last 90 Days : 200

Experience.Flight Time.Type : 500

ASRS Report : 452111

## Person / 2

Function.Flight Crew : First Officer

Experience.Flight Time.Total : 3800

Experience.Flight Time.Last 90 Days : 50

Experience.Flight Time.Type : 50

ASRS Report : 451502

## Person / 3

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 4

Function.Controller : Local

## Events

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Other Anomaly : Loss Of Aircraft Control

Anomaly.Other Anomaly : Unstabilized Approach

Independent Detector.Other.Flight CrewA : 1

Independent Detector.Other.Flight CrewB : 2

Resolatory Action.Flight Crew : Exited Adverse Environment

Resolatory Action.Flight Crew : Regained Aircraft Control

## Supplementary

Problem Areas : Aircraft

Problem Areas : Airspace Structure

Problem Areas : Environmental Factor

Problem Areas : Flight Crew Human Performance

Problem Areas : Weather



Narrative :

INITIAL CLRED FOR RNAV RWY 28R APCH. FIELD CONDITIONS RPTED, CALM WINDS, 10 SM VISIBILITY, SKC, TEMP 14 DEGS C, ALTIMETER 29.99 INCHES. FLT WAS ASKED TO SWITCH TO VISUAL RWY 28L. ANOTHER ACR B737 WAS COMING 'DOWN THE BAY' FROM THE GOLDEN GATE ARR CORRIDOR. WE WOULD NOW FOLLOW AN MD80 7 MI AHEAD FOR RWY 28L. WE VISUALLY ACQUIRED BOTH ACFT AND IMMEDIATELY OFFSET FOR THE L RWY TO ALLOW TURNING ROOM FOR THE ACR B737 THAT WOULD GO 'BELLY UP' TO US, WHILE MAKING HIS R HAND 180 DEG TURN TO LINE UP FOR RWY 28R. AS WE APCHED THE 'BRIJJ' WE NOTED WINDS 020 DEGS/20 KTS, AN 80 DEG R TO L XWIND. THE ACR B737 WAS NOW APPROX 4000 FT AHEAD AND TO THE R OF US, SLIGHTLY HIGHER AND FULLY CONFIGURED. WE CROSSED BRIJJ FULLY CONFIGURED, (GEAR DOWN, 3000 FT) ON SPD, (APPROX 130 KTS) AND ON GS. AT APPROX 1300 FT AGL, BOTH MY FO AND I, VISUALLY ACQUIRED A FUNNEL SHAPED VORTICES EMERGING FROM THE VICINITY OF THE OTHER B737, HEADED TOWARDS OUR ACFT FROM R 1-2 O'CLOCK POS. IT WAS HORIZLY ORIENTED, ABOUT 3 FT IN WIDTH AT THE WIDE FORWARD END AND TIGHTLY WOVEN. THIS 'TORNADO' SHAPED VORTICES, RESEMBLED A CLR, GLASS-LIKE FUNNEL, RAPIDLY APCHING OUR ACFT. THE VORTEX INITIALLY CAUSED A R ROLLING MOMENT, CORRECTED BY L AILERON AND A SMALL AMOUNT OF L RUDDER, THE SECOND TURB LIKE UNCOMMANDED ROLL, WAS MORE VIOLENT CAUSING A L ROLLING MOMENT. THIS REQUIRED NEARLY FULL R AILERON, AND A LARGE R RUDDER INPUT TO LEVEL THE ACFT. I ANTICIPATED THIS SUBSEQUENT ROLL AND ALSO ADDED THRUST. WE ROLLED OUT L OF RWY 28L CTRLINE AND APPROX 146 KTS WITH THE ADDED PWR. I HAD MY FO MAKE A BRIEF ANNOUNCEMENT TO THE PAX AND ATC. WE RE-ESTABLISHED OURSELVES ON RWY 28L AND FLEW A STABILIZED APCH TO AN UNEVENTFUL LNDG. SUPPLEMENTAL INFO FROM ACN 451502: THE ENTIRE EVOLUTION FROM ONSET TO SIGHTING TO FINAL RECOVERY LASTED BTWN 25-30 SECONDS. AFTER RE-STABILIZING AT APPROX 1000 FT FLT XXX PROCEEDED TO AN UNEVENTFUL LNDG AT SFO STAYING SLIGHTLY ABOVE THE GLIDE PATH OF THE PRECEDING ACFT.

Synopsis :

B737-500 LNDG SFO ENCOUNTERS WING VORTICES ON SHORT FINAL INTO SFO.

## Time

Date : 199910

Day : Tue

Local Time Of Day : 1201 To 1800

## Place

Locale Reference.Airport : LAX.Airport

Altitude.MSL.Single Value : 3000

## Environment

Flight Conditions : VMC

## Aircraft / 3

Controlling Facilities.Tower : LAX.Tower

Make Model : B757 Undifferentiated or Other Model

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 17000

Experience.Flight Time.Last 90 Days : 200

Experience.Flight Time.Type : 4200

ASRS Report : 452336

## Person / 2

Function.Flight Crew : First Officer

## Person / 3

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 4

Function.Oversight : PIC

Function.Flight Crew : Captain

## Events

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Other Anomaly : Loss Of Aircraft Control

Anomaly.Other Anomaly : Unstabilized Approach

Independent Detector.Other.Flight CrewA : 1

Resolatory Action.Flight Crew : Exited Adverse Environment

Resolatory Action.Flight Crew : Regained Aircraft Control

## Supplementary

Problem Areas : Aircraft

Problem Areas : Airspace Structure

Problem Areas : ATC Human Performance

Problem Areas : Environmental Factor

Narrative :

LNDG RWY 25L, A B757 LNDG RWY 25R AND A B757 PRECEDING US TO RWY 25L. THE B757 ON RWY 25R WAS ABOUT 1/2 MI AHEAD OF US AND VERY HIGH ON HIS APCH. I FLEW 1 1/2 DOTS HIGH ON GS AND OFFSET TO THE S OF THE LOC BY ABOUT 1/4 MI TO AVOID WAKE BUT STILL HIT STRONG WAKE ROLLING MY ACFT APPROX 60-70 DEGS TO THE L REQUIRING FULL AILERON TO AVOID INVERTED FLT.

Synopsis :

TURBOPROP ACFT ENCOUNTERS WAKE TURB FOLLOWING 2 B757 ACFT TO PARALLEL RWYS.

## Time

Date : 199910

Day : Sat

Local Time Of Day : 1201 To 1800

## Place

Locale Reference.Airport : EFD.Airport

State Reference : TX

Altitude.AGL.Single Value : 200

## Environment

Flight Conditions : VMC

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 13800

Experience.Flight Time.Last 90 Days : 240

Experience.Flight Time.Type : 120

ASRS Report : 452564

## Person / 2

Function.Flight Crew : First Officer

## Person / 3

Function.Oversight : Coordinator

## Events

Anomaly.Airspace Violation : Exit

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Non Adherence : FAR

Anomaly.Other Anomaly : Loss Of Aircraft Control

Independent Detector.Other.Flight CrewA : 1

Resolatory Action.Flight Crew : Exited Adverse Environment

Resolatory Action.None Taken : Unable

Consequence.FAA : Investigated

## Supplementary

Problem Areas : Environmental Factor

Problem Areas : Flight Crew Human Performance

Narrative :

WHILE FLYING IN WAIVERED AIRSPACE FOR AN AIRSHOW, I FLEW INSIDE THE 500 FT LINE AND CROSSED OVER THE CROWD. WHAT HAPPENED: I WAS TRAILING ANOTHER B17 WHILE DOING A 'PHOTO PASS' (DOING A STEEP TURN IN FRONT OF THE CROWD). DURING MY TURN, I GOT INTO THE OTHER B17'S WAKE TURB WHICH ROLLED ME TO ALMOST 90 DEGS OF BANK. I ROLLED IN FULL OPPOSITE AILERON AND RUDDER TO STRAIGHTEN THE ACFT AND IT TOOK A WHILE TO RESPOND AND GET THE ACFT LEVEL. BY THE TIME I HAD THE WINGS LEVEL, I WAS HEADED TOWARDS THE CROWD. THEN I DID AS BRIEFED, WHICH WAS TO STAY WINGS LEVEL IN A CLINGING ATTITUDE. NEXT TIME I WILL KEEP BETTER SEPARATION FROM THE LEAD ACFT.

Synopsis :

CAPT OF A B17 FAILED TO REMAIN WITHIN THE AIR SHOW BOUNDARY WHEN AFFECTED BY THE WAKE TURB OF ANOTHER B17 DURING A PHOTO SHOOT, WHICH RESULTED IN A LOW FLT OVER THE AIRSHOW CROWD.

## Time

Date : 199910

Day : Sun

Local Time Of Day : 1201 To 1800

## Place

Locale Reference.Airport : UES.Airport

State Reference : WI

Altitude.AGL.Bound Lower : 0

Altitude.AGL.Bound Upper : 3

## Environment

Flight Conditions : VMC

## Aircraft / 1

Controlling Facilities.Tower : UES.Tower

Make Model : Champion Citabria 7eca

## Aircraft / 2

Controlling Facilities.Tower : UES.Tower

Make Model : Citation

## Person / 1

Function.Instruction : Instructor

Experience.Flight Time.Total : 1700

Experience.Flight Time.Last 90 Days : 240

Experience.Flight Time.Type : 250

ASRS Report : 453252

## Person / 2

Function.Instruction : Trainee

Experience.Flight Time.Total : 4000

## Person / 3

Function.Controller : Local

## Person / 4

Function.Oversight : PIC

Function.Flight Crew : Captain

## Events

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Other Anomaly : Loss Of Aircraft Control

Independent Detector.Other.Flight CrewA : 1

Resolatory Action.None Taken : Unable

Consequence.FAA : Investigated

Consequence.FAA : Reviewed Incident With Flight Crew

Consequence.Other : Aircraft Damaged

Consequence.Other : Maintenance Action

## Supplementary

Problem Areas : Aircraft

Problem Areas : Environmental Factor

Problem Areas : Flight Crew Human Performance

Narrative :

I WAS TRAINING A PLT IN A 7ECA CITABRIA FOR A TAILWHEEL CHKOUT. HE WAS A 4000 HR CFI WITH 25 YRS FLING EXPERIENCE. THIS WAS HIS SECOND LESSON IN A TAILWHEEL. OUR SECOND LNDG WAS A FULL STALL LNDG, FOLLOWED BY A GAR. PWR CAME IN, TAIL UP, AND JUST AFTER LIFTOFF ACFT BEGAN TO BANK R. I CAME ON THE CTLS, BUT THE AIRPLANE DID NOT RESPOND AND BANKED VIOLENTLY TO THE R, RESULTING IN A CRASH 50 FT TO THE R OF THE RWY. POSSIBLE CAUSE; 1) STUDENT PUSHED FULL R RUDDER, AND I WAS UNABLE TO OVERPOWER HIM. HOWEVER, STUDENT WAS A CFI WITH 4000 HRS AND 25 HRS EXPERIENCE. I WOULD NOT EXPECT HIM TO DO SOMETHING LIKE THAT. IT WAS ALSO NOT A GNDLOOP -- AIRPLANE WAS AIRBORNE BEFORE ANY PROBS AROSE. 2) WINDSHEAR, BUT WINDS WERE STEADY AND LIGHT 270 DEGS AT 7 KTS. 3) WAKE TURB FROM JET THAT HAD LANDED 4 MINS PRIOR. THIS SCENARIO WOULD WORK WITH THE L XWIND AND THE LIGHT WINDS, BUT NOT THE HEADWIND COMPONENT, NOR THE FACT THAT IT WAS A 500 SERIES CITATION, WHICH DOESN'T SEEM TO GENERATE MUCH WAKE. CALLBACK CONVERSATION WITH RPTR REVEALED THE FOLLOWING INFO: RPTR INDICATES THAT HE HAS HAD LONG DISCUSSIONS WITH THE FAA AND THEY HAVE COME TO NO DEFINITIVE CONCLUSION ABOUT THE ACTUAL CAUSE. THE ACFT WAS DAMAGED INCLUDING THE GEAR AND PROP AND SOME BELLY DAMAGE. NOT CONSIDERED SUBSTANTIAL UNLESS YOU ARE WRITING THE CHKS FOR REPAIRS. THE ACFT CAME TO REST 90 DEGS TO THE RWY.

Synopsis :

CITABRIA ATTAINS 3 FT OF ALT ON TKOF, TURNS 90 DEGS AND LANDS NEXT TO THE RWY IN SPITE OF INSTRUCTOR'S BEST EFFORTS.

**ACN: 454599**

## **Time**

Date : 199911

Day : Tue

Local Time Of Day : 1201 To 1800

## **Place**

State Reference : MO

Altitude.MSL.Single Value : 7200

## **Environment**

Flight Conditions : VMC

## **Aircraft / 1**

Controlling Facilities.TRACON : MCI.TRACON

Make Model : DC-9 Undifferentiated or Other Model

## **Aircraft / 2**

Controlling Facilities.TRACON : MCI.TRACON

Make Model : Skylane 182/Rg Turbo Skylane/Rg

## **Person / 1**

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 11000

Experience.Flight Time.Last 90 Days : 20

Experience.Flight Time.Type : 7000

ASRS Report : 454599

## **Person / 2**

Function.Flight Crew : First Officer

## **Person / 3**

Function.Flight Crew : Single Pilot

## **Person / 4**

Function.Controller : Departure

## **Events**

Anomaly.Inflight Encounter : Wake Turbulence

Resolatory Action.None Taken : Detected After The Fact

## **Supplementary**

Problem Areas : Flight Crew Human Performance



Narrative :

DURING CLBOUT FROM MCI TO S, WE WERE GIVEN A 7000 FT ALT RESTR AND A HDG OF 220 DEGS TO JOIN THE RACER 3 DEP. ATC POINTED OUT TFC AT 7500 FT AHEAD OF US WHICH WE BEGAN LOOKING FOR. ATC THEN ASKED AGAIN ABOUT THAT AND OTHER TFC BEYOND AND ABOVE. AT THAT POINT, THE CLOSER TFC, A C182, WAS CLRLY INSIGHT. NORMALLY, I DON'T CALL TFC SO ATC CAN SEPARATE AND CHANCES OF MISIDENT ARE REDUCED. GAVE IN THIS TIME SINCE THE CTLR WAS SO INSISTENT AND TFC WAS OBVIOUS. AS PART OF CONVERSATION WITH ATC, MY FO ALSO CALLED HIGHER TFC IN SIGHT. WOULD HAVE RATHER HE DIDN'T, BUT IT WAS MOVING AWAY SO NOT AN ISSUE. ATC THEN CLRED US TO 13000 FT BASED ON VISUAL SEPARATION. DECIDED TO STAY AT 7000 FT UNTIL BY THE CESSNA. CLRLY IN SIGHT AS IT PASSED OFF TO L AND ABOVE. TCASII WAS GIVING 'MONITOR VERT SPD' RA. SPENT TIME OUTSIDE COCKPIT WATCHING THE TFC AS IT WENT BY. WHILE PASSING, SAW THAT ALT HAD DRIFTED UP TO 7200 FT INADVERTENTLY. ONCE CLR OF TFC, BEGAN GRADUAL CLB TO 13000 FT. ABOUT 3 MI LATER, 190 DEG RADIAL OF RACER 3 BEGAN TO COME IN, SO BEGAN L TURN TO JOIN. ONLY LATER DID I CONSIDER WHAT I HAD DONE. WHILE I WAS NO LONGER WORRIED ABOUT THE C182'S PROX, I SHOULD HAVE BEEN WORRIED ABOUT THE WAKE TURB. BY MAKING THE L TURN, I LEFT THAT CESSNA NOWHERE TO GO TO AVOID IT. EVEN THOUGH WHAT OCCURRED MAY NOT HAVE BEEN ILLEGAL, IT CERTAINLY WAS POOR JUDGEMENT AND INCONSIDERATE ON MY PART. IN MY EXPERIENCE, NOTHING HAS COME UP JUST LIKE THIS. I'M SURE I'M NOT THE ONLY ONE. PLEASE PASS THIS ON SO OTHERS MAY LEARN FROM MY MISTAKE.

Synopsis :

A DC9 FLC REALIZED THEY MAY HAVE CAUSED A C182 TO FLY INTO THEIR WAKE ON CLB NEAR MKC.

## Time

Date : 199911

Day : Sun

Local Time Of Day : 1201 To 1800

## Place

Locale Reference.Airport : DFW.Airport

State Reference : TX

Altitude.AGL.Single Value : 0

## Environment

Flight Conditions : VMC

## Aircraft / 1

Controlling Facilities.Tower : DFW.Tower

Make Model : Brasilia EMB-120 All Series

## Person / 1

Function.Flight Crew : First Officer

Experience.Flight Time.Total : 1315

Experience.Flight Time.Last 90 Days : 225

Experience.Flight Time.Type : 650

ASRS Report : 455160

## Person / 2

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 3

Function.Controller : Local

## Events

Anomaly.Incursion : Landing Without Clearance

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Non Adherence : Company Policies

Anomaly.Non Adherence : FAR

Anomaly.Non Adherence : Published Procedure

Independent Detector.Other.Flight CrewA : 1

Independent Detector.Other.Flight CrewB : 2

Consequence.FAA : Reviewed Incident With Flight Crew

## Supplementary

Problem Areas : ATC Human Performance

Problem Areas : Flight Crew Human Performance

Narrative :

REGIONAL APCH CLRED US FOR VISUAL APCH TO RWY 36L AT DFW, FOLLOWING AN MD80 5 MI AHEAD. PF ENCOUNTERED WAKE TURB, SO HE BEGAN FLYING 1 DOT ABOVE GS. I WAS MONITORING HIS APCH. THE FREQ WAS VERY BUSY AND CONGESTED. APCH CTL APPARENTLY FORGOT TO TELL US TO GO TO TWR, AND I (PNF) FAILED TO CATCH THAT. WE LANDED WITHOUT LNDG CLRNC. I DID NOT EVEN REALIZE WE WERE STILL ON APCH UNTIL WE EXITED THE RWY. AT THAT TIME, APCH CTLR TOLD US TO CONTACT TWR. THE CAPT TELEPHONED THE TWR MGR ONCE WE ARRIVED AT THE GATE AND SMOOTHED EVERYTHING OUT. IT IS POSSIBLE THE TWR CLRED US TO LAND EVEN THOUGH WE WERE NOT ON THE FREQ AND DID NOT HEAR IT. CONTRIBUTING FACTOR WAS THAT THIS WAS OUR 4TH LEG OF THE DAY WITHOUT ANY BREAKS BTWN THE LEGS. WE HEAR LNDG CLRNCS SO MANY TIMES EACH DAY, SOMETIMES IT IS HARD TO REMEMBER IF WE HEARD IT FOR THIS PARTICULAR LNDG. IN ADDITION, ONE OF OUR CHKLIST ITEMS IS TO VERIFY LNDG CLRNC WAS RECEIVED. ALTHOUGH I READ THIS CHKLIST ITEM ALOUD, I KNOW I WAS NOT CONCENTRATING. THE PROB WAS CAUSED BY MY LACK OF ATTN AND FAILURE TO VERIFY ITEMS ACCURATELY ON MY CHKLIST.

Synopsis :

E120 CREW LANDED AT DFW WITHOUT LNDG CLRNC.

**Time**

Date : 199912

Day : Wed

Local Time Of Day : 0601 To 1200

**Place**

Locale Reference.Airport : LAX.Airport

State Reference : CA

Altitude.AGL.Single Value : 0

**Environment**

Flight Conditions : VMC

**Person / 1**

Function.Flight Crew : First Officer

Experience.Flight Time.Total : 1450

Experience.Flight Time.Last 90 Days : 75

Experience.Flight Time.Type : 50

ASRS Report : 456188

**Person / 2**

Function.Oversight : PIC

Function.Flight Crew : Captain

**Person / 3**

Function.Oversight : PIC

Function.Flight Crew : Captain

**Person / 4**

Function.Oversight : PIC

Function.Flight Crew : Captain

**Person / 5**

Function.Controller : Local

**Events**

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Non Adherence : Clearance

Anomaly.Non Adherence : FAR

Anomaly.Non Adherence : Required Legal Separation

Independent Detector.Other.Flight CrewA : 1

Independent Detector.Other.Flight CrewB : 2

Resolatory Action.Flight Crew : Took Precautionary Avoidance Action

Resolatory Action.None Taken : Unable

**Situations**

Aircraft.Make Model.Value : 332.20

**Supplementary**

Problem Areas : ATC Human Performance

Narrative :

GET OUT YOUR LAX ARPT DIAGRAM. WE WERE HOLDING NUMBER ONE ON TXWY C SHORT OF TXWY V NEXT TO RWY 24L. THIS POS ALLOWS US TO TAKE THE RWY BUT ALSO ALLOWS AN ACFT FROM THE OTHER DIRECTION ON TXWY D-7 TO TAKE THE RWY, DEPENDING ON WHO GETS RELEASED FROM SOCAL DEP FIRST. A B747-400 WAS IN POS ON RWY 24L WHILE SOME TFC THAT HAD LNDDED ON RWY 24R WAS CROSSING DOWNFIELD. THE B747 WAS THEN CLRED TO TKOF. WITH INCREDIBLE FORESIGHT, MY CAPT STARTED HIS TIMER AND TOLD ME TO DEMAND THE FULL 2 MINUTES OF WAKE TURB SEPARATION WHEN WE GOT CLRED INTO POS AND HOLD. JUST AS HE PREDICTED, WE WERE CLRED INTO POS AS THE B747 WAS ROTATING. I ACKNOWLEDGED AND REQUESTED 'THE FULL TWO MINUTES.' WE BEGAN ROLLING FORWARD WHEN THE TWR CANCELLED OUR CLEARANCE AND CLRED THE J31 THAT HAD BEEN ON TXWY D-7 OUT ON THE RWY IN FRONT OF US. OBVIOUSLY, THIS WAS IN RETALIATION FOR OUR DEMAND FOR WAKE TURB SEPARATION. I WAS HOPING THE J31 CREW WOULD SEE WHAT WE WERE TRYING TO DO AND LIKEWISE DEMAND TO WAIT THE 2 MINUTES BUT THEY DUTIFULLY TAXIED ONTO THE RWY AND IMMEDIATELY TOOK OFF WHEN CLRED. LESS THAN ONE MINUTE HAD ELAPSED SINCE THE B747 HAS STARTED HIS ROLL. THE CAPT AND I WERE IN SHOCK. HERE WE WERE, SITTING IN A BRASILIA EASILY TWICE THE SIZE OF THE JESTREAM, REFUSING TO LAUNCH INTO A B747'S WAKE AND THEY JUST FOLLOWED ORDERS AND TOOK OFF. WE WERE CLRED INTO POS BEHIND THE J31 AND SUBSEQUENTLY TOOK OFF. WE MADE SURE THE TWO MINUTES WERE UP BEFORE WE PUSHED UP THE PWR. WE ENCOUNTERED NO WAKE PROBS AND THE J31 MADE NO RPTS THAT I KNOW OF BUT THE POTENTIAL FOR DISASTER HERE WAS ENORMOUS. LAX TWR HAS A HISTORY OF THESE PROBS. OTHER PLANES IN OUR COMPANY HAVE BEEN SCOLDED ON FREQ FOR MAKING TURNS AFTER TKOF TO GET OUT OF WAKE TURB. I REALIZE THAT LAX IS WELL OVER CAPACITY AND THAT THE CTLRS ARE UNDER SERIOUS PRESSURE TO GET ALL THESE PLANES MOVED BUT SAFETY IS NOT SOMETHING THAT CAN GIVE IN THE NAME OF EXPEDIENCY! THE CTLRS' ATTITUDE IS SERIOUSLY FLAWED. THIS PROB ALSO SHOWS IN THE UNBELIEVABLE NUMBER OF RWY INCURSIONS AND OTHER GND CTL PROBS LAX EXPERIENCES ON A VERY REGULAR BASIS. THEY NEED TO REALIZE THAT THEY ARE CLRING ACFT TO PERFORM SPECIFIC ACTIONS. WHETHER AND HOW THESE ACTIONS ACTUALLY TAKE PLACE IS STILL THE PURVIEW OF THE FLC. YES, I KNOW WE MAKE MISTAKES WHICH ATC CATCHES THAT SAVES THE DAY AND I'M IMMENSELY GRATEFUL BUT IF THE ATTITUDE OF THE CTLRS CONTINUES TO DEGRADE TO THAT OF A NUN LAMBASTING IDIOT STUDENTS WHILE SHAKING HER RULER THREATENINGLY THEN THE SYS IS GOING TO BREAK DOWN.

Synopsis :

EMB120 RPTR DISTURBED WITH LAX TWR DISREGARD FOR WAKE TURB. SEPARATION POLICIES IN ORDER TO INCREASE TFC FLOW.

## Time

Date : 199912

Day : Mon

Local Time Of Day : 1201 To 1800

## Place

Locale Reference.Airport : ORD.Airport

State Reference : IL

Altitude.AGL.Single Value : 600

## Environment

Flight Conditions : VMC

## Aircraft / 1

Controlling Facilities.Tower : ORD.Tower

Make Model : MD-80 Super 80

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

ASRS Report : 457166

## Person / 2

Function.Flight Crew : First Officer

## Person / 3

Function.Controller : Local

## Events

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Other Anomaly : Loss Of Aircraft Control

Independent Detector.Other.Flight CrewA : 1

Independent Detector.Other.Flight CrewB : 2

Resolatory Action.Flight Crew : Regained Aircraft Control

Resolatory Action.None Taken : Insufficient Time

## Supplementary

Problem Areas : ATC Human Performance

Problem Areas : FAA

Problem Areas : Weather

Narrative :

WAKE TURB ENCOUNTER. WE WERE CLRED FOR TKOF WITH A TURN TO 140 DEG HDG WHILE PRECEDING B737 DEP WAS STILL ON RWY. THE B737 LIFTED OFF BEFORE WE RELEASED THE BRAKES. THE L TURN TO 140 DEGS AT 400 FT TOOK US THROUGH THE WAKE TURB OF THE B737 RESULTING IN A VERY RAPID ROLL OF 20-25 DEGS TO THE L. THIS WAS COUNTERACTED WITH NO FURTHER PROBS BUT IT WAS VERY DISCONCERTING CONSIDERING THE RELATIVELY LOW ALT OF APPROX 600 FT AGL. I REGRET NOT INFORMING THE TWR OF THIS ENCOUNTER. ALTHOUGH I DID INFORM THE DFW TWR OF A WAKE ENCOUNTER UNDER ALMOST EXACTLY THE SAME CIRCUMSTANCES ON A PREVIOUS OCCASION. AFTER 2 OF THESE ENCOUNTERS AT LOW ALT, I DON'T CONSIDER IT SAFE TO TAKE OFF IMMEDIATELY AFTER A PRECEDING JET, EVEN ONE OF SIMILAR TYPE TO CAUSE A LARGE UNCOMMANDED ROLL WHEN IN CLOSE PROX. I THINK THAT THIS ISSUE SHOULD BE RAISED WITH THE CTLRS AS A SAFETY MATTER. IN THE FUTURE, I WILL NOT ACCEPT ANY CLRNC TO TAKE OFF WHILE THE PRECEDING PLANE IS STILL ROLLING. IT MAY BE A LEGAL CLRNC BUT IT'S NOT SMART.

Synopsis :

MD80 CREW HAD ENCOUNTER WITH WAKE TURB DEPARTING RWY 22L AT ORD.

**Time**

Date : 199912

Day : Sun

Local Time Of Day : 1201 To 1800

**Place**

Locale Reference.Airport : ORD.Airport

State Reference : IL

Altitude.AGL.Single Value : 30

**Aircraft / 1**

Controlling Facilities.Tower : ORD.Tower

Make Model : MD-80 Super 80

**Aircraft / 2**

Controlling Facilities.Tower : ORD.Tower

Make Model : Commercial Fixed Wing

**Person / 1**

Function.Oversight : PIC

Function.Flight Crew : Captain

ASRS Report : 457680

**Person / 2**

Function.Flight Crew : First Officer

**Person / 3**

Function.Oversight : PIC

Function.Flight Crew : Captain

**Person / 4**

Function.Controller : Local

**Events**

Anomaly.Inflight Encounter : Turbulence

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Other Anomaly : Loss Of Aircraft Control

Independent Detector.Other.Flight CrewA : 1

Independent Detector.Other.Flight CrewB : 2

Resolatory Action.Flight Crew : Exited Adverse Environment

Resolatory Action.Flight Crew : Regained Aircraft Control

**Supplementary**

Problem Areas : Environmental Factor

Problem Areas : Weather



Narrative :

ORD TWR, RWY 22L THRESHOLD. A NON HVY ACFT HAD DEPARTED RWY 22L ABOUT 45 SECONDS BEFORE OUR LNDG. FO WAS PF. SMOOTH AIR DOWN TO ABOUT 40 FT, THEN WE WERE ROCKED BACK AND FORTH FOR ABOUT 2 SECONDS STRONG. I TOLD THE FO TO ADD PWR. HE ADDED SOME AND THEN WE TOUCHED DOWN FIRM, BUT NOT HARD. I AM MOSTLY SURE THAT THIS WAS THRUST WAKE FROM RWY 22L, NOT RWY 27L BECAUSE THE ROLL WAS BOTH L AND R -- NOT JUST TO THE L AS IT WOULD HAVE BEEN IF FROM RWY 27L ON MY R. WHILE I MADE A PA DURING TAXI IN TO EXPLAIN THIS TO THE PAX, IT WAS UNUSUAL BECAUSE AT ORD WE RARELY LAND ON A DEP RWY. THIS IS SUBMITTED FOR TREND ANALYSIS.

Synopsis :

S80 ENCOUNTERS WAKE TURB ON VERY SHORT FINAL AT ORD.

## Time

Date : 199911

Day : Wed

Local Time Of Day : 1801 To 2400

## Place

Locale Reference.Airport : EWR.Airport

State Reference : NJ

Altitude.MSL.Single Value : 5000

## Environment

Flight Conditions : IMC

## Aircraft / 1

Make Model : B737-200

## Aircraft / 2

Make Model : Boeing Company Undifferentiated or Other Model

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 6037

Experience.Flight Time.Last 90 Days : 186

Experience.Flight Time.Type : 924

ASRS Report : 457830

## Person / 2

Function.Flight Crew : First Officer

## Person / 3

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 4

Function.Controller : Approach

Function.Controller : Radar

## Events

Anomaly.Inflight Encounter : Wake Turbulence

Anomaly.Non Adherence : Clearance

Anomaly.Non Adherence : Required Legal Separation

Independent Detector.Other.Flight CrewA : 1

Resolatory Action.Flight Crew : Exited Adverse Environment

Resolatory Action.Flight Crew : Took Precautionary Avoidance Action

Resolatory Action.Controller : Issued New Clearance

## Supplementary

Problem Areas : Airspace Structure

Problem Areas : ATC Human Performance

Problem Areas : Environmental Factor

Problem Areas : Weather

Narrative :

MCO ON APCH EWR, RADAR VECTORS DOWNWIND, ACQUIRED FOLLOWING TFC ON TCASII AT 8 NM AND INTERMITTENT VISUAL CONTACT IN HAZE. TARGET WAS 1000 FT BELOW, WE WERE AT 5000 FT AND ASSIGNED 210 KIAS. WE WERE GIVEN OUR BASE TURN, GIVEN A DSCNT TO 4000 FT MSL CO-ALT WITH TARGET. STRUCK ABOUT 3 SECOND WAKE TURB COMPARABLE TO MY PREVIOUS EXPERIENCE WITH B757. WE ASKED RADAR WHAT WE WERE FOLLOWING AND WERE TOLD 'B737.' APCHING 'DOGLEG TO FINAL,' WE STRUCK THE WAKE AGAIN. I DIRECTED THE COPLT TO ASK FOR MORE SEPARATION. WE WERE SLOWED TO 190 KIAS. SEPARATION ON FINAL WAS ABOUT 6 NM. DOWN THE GLIDE PATH. I HAD LIGHT WAKE TURB AND HAD TO DISENGAGE THE AUTOPLT COUPLER AND HAND FLY THE APCH ABOVE GLIDE PATH. ON ROLLOUT, I DISCOVERED THE PRECEDING TFC WAS A B737. ALTHOUGH BOTH ACFT WERE 'B737,' THE NG WITH ITS INCREASED GROSS WT AND CLEANER WING WAS PRODUCING A VERY SIGNIFICANT WAKE. HAD THE WX BEEN CAT II OR CAT III, WE WOULD HAVE MISSED THE APCH SINCE THE AUTOPLT COUPLER COULDN'T HANDLE IT. I SUSPECT CURRENT SEPARATION STANDARDS MAY NOT BE ADEQUATE FOR THIS NEW ACFT.

Synopsis :

B737-200 HAS MULTIPLE INCIDENTS OF WAKE TURB IN TRAIL OF LATER MODEL B737 AND WONDERS IF WAKE SEPARATION POLICIES ARE GOING TO CATCH UP TO CURRENT CONDITIONS AT EWR.

## Time

Date : 200001

Day : Fri

Local Time Of Day : 1201 To 1800

## Place

Locale Reference.Airport : PHX.Airport

State Reference : AZ

Altitude.AGL.Single Value : 500

## Environment

Flight Conditions : VMC

## Aircraft / 1

Controlling Facilities.Tower : PHX.Tower

Make Model : B737-300

## Aircraft / 2

Controlling Facilities.Tower : PHX.Tower

Make Model : A320

## Person / 1

Function.Oversight : PIC

Function.Flight Crew : Captain

Experience.Flight Time.Total : 12700

Experience.Flight Time.Last 90 Days : 180

Experience.Flight Time.Type : 2000

ASRS Report : 460291

## Person / 2

Function.Flight Crew : First Officer

## Person / 3

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 4

Function.Controller : Local

## Person / 5

Function.Controller : Departure

## Events

Anomaly.Inflight Encounter : Wake Turbulence

Independent Detector.Other.Flight CrewA : 1

Independent Detector.Other.Flight CrewB : 2

Resolatory Action.Flight Crew : Took Precautionary Avoidance Action

## Supplementary

Problem Areas : ATC Human Performance

Problem Areas : Flight Crew Human Performance

Narrative :

DEPARTED RWY 8R PHX BEHIND AN A320. SHORTLY AFTER LIFTOFF ENCOUNTERED MODERATE WAKE TURB FROM PRECEDING AIRPLANE. THIS CONTINUED FOR 30 SECONDS. I REQUESTED A TURN FROM ATC TO GET OUT OF THE WAKE. NO RESPONSE. EVEN THOUGH THE AIRPLANE WAS UNDER CTL, IT WAS EVIDENT THAT CTL WAS DIFFICULT AND IMMEDIATE ACTION WAS NEEDED TO MOVE OUT OF THE WAKE. I THEN INFORMED ATC THAT WE WERE TURNING R TO AVOID THE WAKE. AT THAT TIME, ATC RESPONDED AND GAVE US A VECTOR N OF THE DEP PATH. LATER RESUMED THE DEP.

Synopsis :

CREW IN B737-300 DEPARTED PHX BEHIND AN A320 AND ENCOUNTERED MODERATE WAKE TURB.

## Time

Date : 200002

Day : Fri

Local Time Of Day : 1801 To 2400

## Place

Locale Reference.Airport : SFO.Airport

State Reference : CA

Altitude.MSL.Bound Lower : 600

Altitude.MSL.Bound Upper : 2000

## Environment

Flight Conditions : VMC

## Aircraft / 1

Controlling Facilities.TRACON : O90.TRACON

Make Model : B737-300

## Aircraft / 2

Controlling Facilities.TRACON : O90.TRACON

Make Model : B757-200

## Person / 1

Function.Flight Crew : First Officer

Experience.Flight Time.Total : 6100

Experience.Flight Time.Last 90 Days : 164

Experience.Flight Time.Type : 2400

ASRS Report : 463928

## Person / 2

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 3

Function.Oversight : PIC

Function.Flight Crew : Captain

## Person / 4

Function.Controller : Departure

## Events

Anomaly.Other Spatial Deviation : Track Or Heading Deviation

Anomaly.Inflight Encounter : Wake Turbulence

Independent Detector.Other.ControllerA : 4

Independent Detector.Other.Flight CrewA : 1

Resolatory Action.Flight Crew : Exited Adverse Environment

Resolatory Action.Flight Crew : Took Precautionary Avoidance Action

Resolatory Action.Controller : Issued Advisory

Consequence.FAA : Reviewed Incident With Flight Crew

## Supplementary

Problem Areas : Airspace Structure

Problem Areas : ATC Human Performance

Problem Areas : Flight Crew Human Performance

Narrative :

WE (ACFT X) WERE DEPARTING RWY 1L AT SFO, ON A SFO-8 DEP, WHICH REQUIRES A R TURN TO 030 DEG HDG, AWAITING VECTORS ON COURSE. WE DEPARTED FOLLOWING A B757 (ACFT Y) WHICH HAD TAKEN OFF FROM RWY 1R AND WAS ABOUT 4 MI UPWIND WHEN WE BEGAN OUR TKOF ROLL. AFTER AIRBORNE, WE BEGAN A 15 - 20 DEGS, ANGLE OF BANK TURN TOWARDS A 030 DEG HDG. AT ABOUT A HDG OF 020 DEG, WE BEGAN TO FEEL THE FIRST NIBBLE OF WAKE TURB, AND I TOLD THE CAPT THAT I WOULD STOP MY TURN THERE (020 DEG HDG) INSTEAD OF CONTINUING FURTHER INTO THE POTENTIALLY DANGEROUS ZONE OF WAKE TURB WHICH WAS TOWARDS OUR R. AFTER ONLY SEVERAL SECONDS OF A ONCE AGAIN SMOOTH RIDE, WE AGAIN ENCOUNTERED WAKE TURB, THIS TIME MUCH MORE SEVERE THAN THE FIRST. COUNTERING THE ROLL INDUCED BY THE B757'S WINGTIP VORTEX REQUIRED CLOSE TO 90 DEGS OF YOKE DEFLECTION. I THEN ATTEMPTED TO TRY TO CLB ABOVE THE PRECEDING ACFT'S FLT PATH AND TURN BACK FARTHER L (KNOWING THAT WINGTIP VORTICES FLOW AFT, OUT AND BELOW THE GENERATING ACFT'S WINGS). ALREADY AT OUR PROFILE CLBOUT SPD ( $V_2 + 20$ ) I WAS UNABLE TO ESCAPE THIS POTENTIALLY DANGEROUS SIT VERTICALLY (AND THE WATER WAS LESS THAN 1000 FT BELOW ME) SO A SLIGHT TURN TO 10 DEGS REMEDIED THE PROB. MY CAPT THEN MADE A COURTESY CALL TO BAY APCH TO INFORM THEM THAT WE HAD ENCOUNTERED WAKE TURB AND, AS A RESULT, HAD TO ROLL OUT ON A HDG OF 010 DEGS. ALTHOUGH I AM POSITIVE THAT THE CTLR WOULD NOT HAVE BEEN ABLE TO DETECT VIA HIS RADAR THAT OUR FLT PATH WAS DEVIATING FROM 'NORMAL' AT THIS TIME, ONCE HE WAS INFORMED OF OUR DEV BY MY CAPT, HE INCREDIBLY GAVE US A HARD TIME FOR DEVIATING FROM OUR ASSIGNED DEP. IN FACT, HE TOLD US THAT IN THE FUTURE WE SHOULD ASK FOR AND RECEIVE CLRNC FROM ATC PRIOR TO PERFORMING ANY WAKE TURB AVOIDANCE/RECOVERY MANEUVER. THE CTLR CONTINUED TO BERATE US, DESPITE OUR ATTEMPTS TO EXPLAIN THE SEVERITY OF OUR ENCOUNTER. HE TOLD US THERE COULD HAVE BEEN A CONFLICT WITH OAKLAND TFC, IF ANY WERE PRESENT (THERE WAS NOT...PLUS, WX/VISIBILITY WAS UNLIMITED). FINALLY, HE SUGGESTED THAT NEXT TIME, IF WE NEEDED TO ESCAPE THE PRECEDING ACFT'S WAKE, THAT WE TURN R. (TOWARD THE VORTEX, WAKE AND EVEN THE OTHER VORTEX OF THAT ACFT.) CORRECTIVE ACTIONS: ENSURE CTLRS ARE BRIEFED IN THE HAZARDS OF WAKE TURB.

Synopsis :

B737-300 FLC INITIATES EVASIVE WAKE TURB TURN FROM PREVIOUSLY DEPARTING B757 FROM SFO ONLY TO BE CHIDED BY O90 CTLR.